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C. pyogenes Infection in Cattle with Special Reference to Summer Mastitis

By

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Summer mastitis constitutes a problem of great economic importance to this country because of the loss in milk and in reduced milking capacity of cows affected by this disease. It assumes a still greater significance when it is realised that the all-important supply of milk during the winter is derived chiefly from animals which are particularly susceptible to this disease since the condition principally affects dry cows or heifers, especially during the months of June to September. It also occurs in other months of the year—although milking cows are affected more rarely—but the course of the disease is somewhat different in these months.

No accurate data are available regarding the incidence of the disease in different counties, but certain regions appear to show more cases than others: *e.g.*, in the North of England, Scotland and North Wales as compared with the South of England, and perhaps in the Western counties the disease is more prevalent than in the home counties, although it must be borne in mind that the incidence is variable from year to year and until detailed figures are available it is impossible to assess the geographical distribution of summer mastitis in this country with any degree of accuracy. The disease is reported from most countries of Europe as well as from North America, some countries in Africa and the Far East.

It would not be possible in the course of this paper to discuss fully all the problems which this condition involves, as these are too wide and numerous. Moreover, the position has been fully dealt with in most of its aspects by Lovell (1939, 1943, 1945) in the course of various addresses in recent years. This paper, therefore, will be confined chiefly to the recent knowledge which has been acquired in the field of prevention. However, in order to study the measures which can be adopted for the prevention of such a condition it is necessary to recall the factors associated with the onset of summer mastitis in cows and the clinical course of the affection.

The initiation of the disease is not fully understood and various hypotheses have been put forward as the result of observational or experimental research. In the past it was generally assumed that flies were responsible, presumably by carrying the organisms to the udders of susceptible animals. It is not clear when or by which experiments this conclusion was arrived at, and in the absence of more critical observations this explanation was accepted as at least a plausible one. No experiments have been made which showed either that flies are carriers of *C. pyogenes* or, assuming they are, that they can infect cows by biting the teats, or in some other way. Moreover, no particular species of fly has ever been specifically incriminated. On the other hand, it is difficult to reconcile the "fly infection theory" with certain observations, such as that the disease is of a sporadic nature—if flies were the agent responsible for the condition it would be expected that more animals or even more quarters of the same animal would become infected where cows are similarly exposed to the attacks of flies—or, further, as Lovell (1943) has already pointed out, that it does not seem necessary to postulate that infection is brought from an outside source as it would appear that *C. pyogenes* is probably a normal inhabitant of cattle. If this should be accepted, the role of the fly would presumably be to act as a predisposing factor by irritation to the teats.

On the assumption that the fly acts as a carrier of the disease, various workers have tried the use of preparations introduced into the teat or as a protective cover to the orifice with the object of minimising the introduction of the organisms into the udder by flies. Again, it is unfortunate that no fully controlled experiments have been described by which the usefulness of such measures can be truly assessed. In fact, reports from various workers in the field show a great deal of disparity in the results obtained by these methods. The varied nature of the results themselves must prevent a definite judgment being made on the efficacy, or otherwise, of such treatments, particularly when the cyclic nature of the disease is borne in mind. It is constantly observed that summer mastitis will prevail in certain areas for one or two, or even more years, and then for some reason unknown the incidence of the disease in that area may fall to a very low level for some years following. An instance of this kind can easily lead workers to false conclusions as to the effects of prophylactic measures which are applied in the field unless the experiments are properly controlled. Even if it were demonstrated that the adoption of measures such as the sealing of the teats in fact reduced the incidence of the disease, it could hardly be concluded that the diminished incidence of summer mastitis would be due to the elimination of the fly as a carrier, because most of the preparations which have been used contain some antiseptic which by its mere presence in the udder would tend to minimise the growth of the causal organism in its early stages no matter by what means it reached the site of infection. Until fully controlled experiments are carried out with the aid of effective fly repellents or by using artificially infected flies on experimental animals, the fly must be regarded as a possible, but probably an unlikely, vector of the organism.

Other preventive methods are based on the production of an immunity in the body of the animal against the organisms usually responsible. *C. pyogenes* produces a filtrable toxin which is lethal to rabbits or mice when injected intravenously. By treating the toxin with formalin the resulting toxoid stimulates the production of antitoxin in the serum of animals injected with it. Experiments have shown that this antitoxin can protect mice and rabbits against the lethal effects of the toxin (Lovell, 1937, 1941). It has been suggested (Lovell, 1941) that the possibility of similar treatment applied to cattle as a preventive against *C. pyogenes* infections might be of value. Lovell (1942) reported later that toxoid used in experiments in Northern Ireland appeared to offer little protection against summer mastitis, but he thought this might have been because the antitoxin had not been maintained at a sufficiently high level.

Preliminary experiments at Weybridge revealed that cows suffering from summer mastitis showed a very marked increase in antitoxin. They contrasted strongly with those infected with *C. pyogenes* in the uterus in the form of a purulent metritis or pyometra, which showed no increase at all in the level of antitoxin in the blood stream.

In cases of acute infections in the feet which were observed in one particular herd the level of antitoxin was highest in those animals which showed more general bodily disturbance.

The amount of antitoxin present in the blood in various infections can be regarded as an index of the amount of toxin which has been produced and it seems from these observations that toxin formation is more prolific or is more readily absorbed in infections of the udder than of the uterus and result in an increased degree of systemic disturbance. It was hoped that the inoculation of toxoid in cattle would therefore provide some means of mitigating the general symptoms observed in cases of summer mastitis and thus reduce the death-rate in addition to its having a possible prophylactic value.

Experiments in normal animals were made to establish the correct dosages of toxoid for the production of large amounts of antitoxin and also to compare the value of Commercial Toxoid with the more concentrated Alum Precipitated Toxoid as prepared by Lovell (1941). The results have shown (Weitz, 1947) that at least three injections of A.P.T. were necessary to provide a suitably high level of antitoxin and that these could be administered in doses of 5, 10 and 10 c.c. at seven- and ten-day intervals respectively, with good results.

Another method, found equally suitable and possibly resulting in a slightly higher level of antitoxin, can be used providing that no immediate rise of antitoxin is required, and consists of injections given at bi-monthly intervals. (In the experiments quoted, the doses given were 20, 20 and 10 c.c. of A.P.T., but it is possible that smaller doses would result in an equally good response.) This method has the advantage from the practical point of view that more animals can be inoculated than by the

previous alternative which requires all the inoculations to be made within a space of three weeks. This would be a severe handicap to a practitioner who has a large number of herds to inoculate, because the inoculations would all have to be given during the early summer when farmers, also, are rather busy. By either method, the maximum level of antitoxin is obtained approximately 10 to 14 days after the last injection. It was also shown in these experiments that no appreciable amount of antitoxin was produced in cattle as a result of inoculation with the Commercial Toxoid tested. Thus it is clear that if the antitoxin is to be regarded as a factor responsible for the presence of immunity in cattle it would be essential to use Alum Precipitated Toxoid.

Experiments (Weitz & Langridge, 1947) were then made to assess the degree of protection which was conferred by the presence of large amounts of antitoxin in the blood stream resulting from A.P.T. injections. The course of infection was also compared with the results of the inoculation of bacterial whole vaccine which did not produce antitoxin in the serum. Groups of approximately 20 milking ewes were employed. Three of these groups were inoculated with a course of A.P.T., A.P.T. and vaccine combined, and vaccine only, respectively, while the last group was kept as an uninoculated control. Ten days after the last injection of either vaccine or toxoid had been given, each animal was infected in the udder via the teat canal with a suspension of *C. pyogenes* which had been made virulent for sheep by passage. The animals were given a light form of infection in the left half of the udder while in the right half a more substantial infecting dose was introduced. The introduction of the organisms in this manner showed that in the control group of ewes there was a 100 per cent. infection of the right half of the udder within a few days, whilst the left half, which received a less infective dose, produced a permanent infection in 50 per cent. of cases. The symptoms were similar to those observed in cattle affected with summer mastitis but the systemic disturbance did not appear to be so severe. In the treated groups, none of the ewes was shown to be protected against the effects of the higher infecting dose and the incidence of *C. pyogenes* infection which occurred in the right half was similar to that in the control group. On the other hand, significant differences were observed between the various groups as regards the protection acquired by the ewes against the infection with the lower dose in the left half of the udder. As compared with the control group which had received no preventive treatment and in which approximately 50 per cent. of ewes contracted a permanent mastitis, the animals previously inoculated with both vaccine and toxoid combined, or with vaccine only, showed an incidence of about 35 per cent., which indicates a mild type of protection. However, it is doubtful whether this difference is significant when the number of animals tested is taken into account. In the group of animals which had received only A.P.T. previous to the infection, only one out of 16 ewes contracted a permanent infection in the left udder.

This shows that a definite protection was provided by the inoculation of A.P.T., but, strangely, only a mild protection, if any, was afforded when the toxoid was injected simultaneously with the vaccine, although almost the same amount of antitoxin had been present in both these groups at the time of artificial infection. It is not understood how the injection of vaccine diminished the degree of protection conferred and why the presence of large amounts of antitoxin failed to protect in this case.

As these artificial infection tests indicated that A.P.T. could possibly be of some value against natural *C. pyogenes* infections in cattle, a series of field trials was made in Anglesey during the summers of 1946 and 1947. The results are reported separately, as the plan of the experiments was varied slightly each year.

SUMMER 1946 EXPERIMENTS

An unusually high incidence of summer mastitis had been noticed to occur in the County of Anglesey during the summer months of 1945, and according to available reports the condition seemed to have occurred in approximately 25 per cent. of susceptible animals* on the isle. A high incidence had also been observed in earlier years and the experiment was carried out on the assumption that a similar incidence might be expected to occur during the summer of 1946.

1. *Inoculated herds*

A total of 450 animals from 19 different herds was used. In each herd the animals were divided in four groups as evenly as possible with regard to calving time, stage of lactation and age. Two products were used: (*a*) *C. pyogenes* alum-precipitated toxoid (A.P.T.), which was prepared as described by Lovell (1941) and (*b*) *C. pyogenes* vaccine prepared by the method previously reported (Weitz & Langridge, 1947). The animals in each group were treated as follows: *Group I*: doses of 5, 10 and 10 c.c. of A.P.T. given by intramuscular injections at intervals of ten days. (This is one of the alternative methods which have been discussed earlier.) *Group II*: *C. pyogenes* vaccine given in a similar manner in doses of 2·5, 5 and 5 c.c. at ten-day intervals. The choice of these quantities was purely arbitrary. *Group III*: The animals in this group received a course of injections of A.P.T. and of vaccine in the same dosage as the previous groups. *Group IV*: The animals in this group acted as uninoculated controls.

The first inoculations were made at the beginning of May and, in the middle of June, 1946, a representative number of blood samples was taken from animals in each of the inoculated groups for blood antitoxin estimations. In all, 78 blood samples were taken and the average amount of antitoxin in the serum of animals tested was 921 "*X*" units per c.c. in the toxoid group, 833 units per c.c. in the toxoid vaccine groups, while animals which had received vaccine only gave an average similar to the controls, *viz.*, 160 units per c.c. In order to maintain the blood level of antitoxin over the critical months of July and August all the animals concerned were reinoculated early in July with 10 c.c. of A.P.T., or 5 c.c. of vaccine, or both, according to their respective groups.

2. *Uninoculated herds*

In addition to the control group of animals in the "inoculated herds" as mentioned above, observations were also kept on other herds in Anglesey which had not been given any preventive treatment; they are referred to in this paper as "uninoculated herds." The object was to obtain data on the distribution, occurrence and nature of the disease in these herds for comparison with similar details as they occurred in the inoculated herds.

In all cases of suspected summer mastitis referred to, milk samples were obtained from the affected quarters and the disease was confirmed by bacteriological examination.

Results in the Inoculated Herds

The first case of summer mastitis which came to notice occurred in the middle of July, 1946, and cases continued to occur regularly from that date until the middle of September.

Table I

Incidence of Summer Mastitis in Inoculated Herds during the Summers of 1946 and 1947

Group	Number inoculated			Number infected			Per cent.		
	1946	1947	Total 2 years	1946	1947	Total 2 years	1946	1947	Total 2 years
Toxoid	91	489	580	4	13	17	4·4	2·6	2·9
Toxoid and vaccine	78	—	78	8	—	8	10·2	—	10·2
Vaccine	76	—	76	5	—	5	6·6	—	6·6
Control	85	454	539	10	12	22	11·7	2·6	4·1

Although 450 animals were originally included in the experiment, a proportion of these were still milking during the summer and others had been disposed of for various reasons, and only 330 "susceptible" animals were left among the various groups in the inoculated herds. As shown in Table I a total of 27 confirmed cases of summer mastitis occurred. Nine herds were involved out of a total of 19 herds included in the experiment. Thus 8·2 per cent. of all susceptible animals included in the experiment suffered from summer mastitis, or 15·3 per cent. of susceptible animals from the herds which showed infection. There is no significant difference in the numbers of cases which occurred in the various groups, other than that expected by chance, and therefore no protective power on the part of toxoid or vaccine is evident against the occurrence of summer mastitis in the field as judged by these results.

Results in the Uninoculated Herds

Observations in this category relate only to herds in which one or more cases of summer mastitis had been confirmed. This is due to the procedure which was adopted regarding the recording of details among these herds. When a case had been confirmed, the farm was subsequently visited and the history of the case, together with details of the herd, were compiled after the infection had been reported. Thus, the herds concerned represent only a selected portion of the total number of herds in Anglesey

* This term is used to indicate any cow or pregnant heifer which would be dry at any time during the months of July, August or September.

which had not been inoculated and are not considered to be reliable controls, but give a subsidiary indication of the increase on the isle. A total of 27 summer mastitis cases were reported in this way from 21 herds, with a total of 124 susceptible animals. The total incidence in these herds, therefore, was 21·8 per cent. This figure compares favourably with the incidence of summer mastitis in the herds which had been infected among the inoculated herds (15·4 per cent.). The slightly higher incidence in the uninoculated herds can probably be accounted for by the smaller size of individual herds in this category as compared with the number of susceptible animals in each of the inoculated herds. There is, therefore, no evidence of a reduced rate of infection in the inoculated herds as a result of a portion of the animals in these having been protected.

Nature and Characters of the Disease

Details which have been collected regarding the disease are recorded here to show that the course and outcome of cases of summer mastitis during the summer of 1946 were strictly comparable in both the inoculated and the uninoculated herds.

(i) *Time of occurrence.*—As mentioned above, cases of summer mastitis occurred regularly from the middle of July until the middle of September. A few cases occurred after this time and one case was confirmed in October, one in December and one in January. There was no difference in the time of occurrence of the cases in the inoculated or the uninoculated herds.

(ii) *Geographical distribution.*—The great majority of summer mastitis cases occurred in farms situated South of a line drawn from Holyhead to Red Wharf Bay. This area represents the more fertile, wooded parts of the isle, while, generally speaking, the area North of this line is more rocky, bare and windswept.

(iii) *Incidence per herd.*—In the inoculated herds, 27 cases occurred in nine herds, which represents a rate of approximately 3·0 cases per herd, compared with 27 cases from 21 uninoculated herds or 1·3 cases per herd. These figures take into account only those herds where infection actually occurred.

(iv) *Incidence in relation to age.*—It appears from Table II that the susceptibility of the animals is increased with age. Heifers carrying their first calf were affected in the uninoculated herds only and one unconfirmed case in a virgin heifer was reported.

TABLE II

INCIDENCE OF SUMMER MASTITIS IN RELATION TO AGE

Number of pregnancies	Total	
	Number	Per cent.
First calf	3	5·5
S cond calf	13	23·7
Third calf	15	27·2
Fourth calf	24	43·6
TOTAL	55	100·0

The figures in Table II show merely that the greater number of cases reported occurred in the higher age groups; they do not express the incidence of summer mastitis at various ages generally, as the total of the number of susceptible animals in the respective categories was not known.

(v) *Incidence in relation to time of calving.*—All cases occurred in dry cows or heifers and their distribution in relation to term of pregnancy is shown as follows:

TABLE III

INCIDENCE OF SUMMER MASTITIS IN RELATION TO TIME OF CALVING

State of pregnancy	Total	
	Number	Per cent.
Ninth month	26	5·0
Eighth month	7	13·4
S venth month	15	28·9
Sixth month	4	7·7
TOTAL	52	100·0

The results shown in Table III suggest that the most susceptible animals are those which are about to calve or which have only recently been dried off. It would be necessary to know the total numbers of susceptible animals in each category to confirm this view.

(vi) *Outcome of cases.*—Of a total of 54 cases, 5 (9·2 per cent.) died soon after the onset of the disease (three in the inoculated herds and two in the uninoculated herds); 13 (24 per cent.) were sent to slaughter in the early stages of the condition and the remaining 36 were kept on the farms for fattening before slaughter or for the rearing of calves following the recovery of the animal from the acute stages of the disease. In every case the affected quarter was permanently lost. In the estimation of the death-rate (9·2 per cent.) it is necessary to take into account a proportion of slaughtered cases which might otherwise have died, so that a 10 per cent. death-rate is probably on the low side. (The total number of summer mastitis cases slaughtered in the slaughter-houses of Anglesey was 171 animals. Few facilities are available on the isle for the slaughter of animals in knackers' yards so that the greater proportion were probably accounted for.)

SUMMARY AND CONCLUSIONS FOR SUMMER, 1946

The inoculation of cattle with alum-precipitated toxoid or vaccine was of no value for the protection of animals against the natural infection of the udder with *C. pyogenes*. A high degree of protection should have been evident with the number of animals used in the experiment. However, in order to demonstrate the possibility of a lower degree of protection a larger number of animals would have had to be used. Thus if either A.P.T. or vaccine can afford any protection at all against summer mastitis, such a protection evidently must be low and of no immediate practical value. This is also confirmed by a comparison of the incidence and nature of such cases as they occur in herds which have been partly protected and in completely unprotected herds.

SUMMER 1947 EXPERIMENTS

In 1947 the experiment was enlarged and somewhat modified in the light of previous findings. The information sought was: does A.P.T. confer any degree of protection, however small, against summer mastitis? In order to obtain a clear answer to this question the vaccine groups were eliminated. It was obvious that at least 100 cases of summer mastitis would have to occur in the animals included in the experiments in order to demonstrate even a low degree of immunity, as was expected. On the basis of a 10 to 15 per cent. incidence of susceptible animals this meant that approximately 1,000 such animals would have to be used. Although 1,118 cattle were at first included in the experiment, for various reasons the total figure finally became 943 susceptible cattle drawn from 103 different holdings. The susceptible animals were divided in each herd into two equal groups and 489 cattle were inoculated with A.P.T. while 454 were left uninoculated to act as controls. (See Table I.)

The grouping of control and injected cattle in each herd was made as evenly as possible by allocating to each group an even distribution of animals in regard to age, stage of lactation and management in each particular herd. Owing to the very large number of animals which had to be injected, the alternative method mentioned earlier was adopted and the first inoculations of 20 c.c. were completed by the end of March. The second dose was given during May and finally a last dose of 10 c.c. was injected by early July.

The results of a large number of blood tests showed a certain amount of variation in the amount of antitoxin present and a gradual drop was evident in the level of antitoxin as the time after the last injection of toxoid increased. The average of seven samples taken from cows during the first three weeks after the last injection was about 1,000 units of antitoxin; 66 samples taken during the fourth week showed an average of 650 units; 56 animals sampled during the fifth week gave an average of about 550 units, and, by the sixth and seventh weeks, when 63 samples were taken, the level was down to 400 units.

No samples were taken after this time, but from the experiment in normal cattle (Weitz, 1947) it seems unlikely that the level would have dropped much more, although a gradual fall had to be expected during the following weeks.

Thus, at the beginning of August, from a total of 193 samples taken, seven contained more than 1,200 units, 44 samples were at a level between 1,200 and 640, 60 were between 640 and 320, 50 were at a level range from 320 to 160, while 32 contained less than 160 units. The average level of antitoxin of the control group was 83 units as judged from 16 cows sampled at random.

The incidence of the disease in 1947 was unfortunately extremely low compared with that of the previous year. As shown in Table I, in the experimental herds there were recorded only 25 cases which were evenly distributed between the two groups, *viz.*, 13 in controls and twelve in inoculated animals. This represents an incidence of approximately 2·6 per cent. of the total number of animals involved in each group. (See Table I.)

Any analysis of these figures beyond this point would be purposeless owing to the very small number of cows affected, but it is clear that toxoid has no marked protective value. This is also borne out by the previous year's results, and given a larger incidence of cases it is obvious that only a very small protection rate could have been shown.

The outcome of the cases was similar to the previous year's results. Of the twelve cows which became infected in the toxoid group, three were slaughtered and nine others lost the infected quarter permanently. In the control group, eight were slaughtered and the remainder showed a total loss of the infected quarters.

The disease ran from the beginning of July to September and there seemed to be no geographical distribution on the isle according to any pattern.

Streptococcus dysgalactiae

In both years a number of cases suspected to be summer mastitis were found in fact to be infected with *Str. dysgalactiae*. In some, *Str. dysgalactiae* later became superseded by *C. pyogenes* infection with the typical symptoms and outcome. Most animals which were suitably treated before *C. pyogenes* invaded the quarter made a complete recovery but this never occurred once the infection with *C. pyogenes* was established. In the 1947 experiment, 14 samples were received which contained pure cultures of *Str. dysgalactiae*. Of these cases, nine made a normal recovery following treatment, while the remaining five cases became superseded by a *C. pyogenes* infection with the usual loss of the affected quarter.

All the infections due to *Str. dysgalactiae* occurred in dry cows and resembled in most respects the clinical symptoms associated with *C. pyogenes* infection. Had it not been for the bacterial investigations made, cases would inevitably have been called "summer mastitis."

Treatment

A very small number of animals were treated by various methods in 1946, and kept under special observation: treatments were as follows:—

Penicillin treatment consisted of four daily infusions of the affected quarter with 100,000 units (five cases), *Propamidine* solution (0·15 per cent.) used in a similar manner in 10 c.c. quantities (two cases), *Sulphapyridine* by mouth in daily doses of 90, 60, 60 and 45 grammes respectively for four days (12 cases).

Finally, treatment by the daily intramuscular injection of *C. pyogenes alum-precipitated toxoid* in 10 c.c. amounts (twelve cases). No improvement whatever resulted from the application of any of these treatments.

It is significant that, similarly, all workers have consistently reported the ineffectivenes of various treatments (Arthur, G. H., 1943; Brown, J. A. & Stuart, J. D., 1943; Downham, K. D. & Christie, G. J., 1946; Edwards, S. J. & Brownlee, A., 1946, and others) The practitioner Gold (1946), however, claimed some beneficial results from penicillin. But it is possible that his cases may have been infections due to *Str. dysgalactiae*, which have been shown to resemble closely true summer mastitis due to *C. pyogenes* unless full bacteriological investigations are carried out. The differential diagnosis between *C. pyogenes* and *Str. dysgalactiae* infection by microscopic examination of stained slides is not always easy, and is not reliable for a final decision. It is difficult otherwise to understand what factors influenced the high rate of recovery following treatment with penicillin by this worker.

Conclusions and Discussion

The low incidence of summer mastitis in the herds concerned in these experiments prevents definite conclusions, but they seem to indicate that, although A.P.T. injected in cows is highly antitoxinogenic, the presence of antitoxin does not confer any protection against *C. pyogenes* infections. This failure to protect may be due to one or more of several factors:

(i) The antitoxin level produced was not sufficiently high. This contention is upheld by the experiments in sheep in which the antitoxin content was particularly high and some protection was also evident. However, in cows, there is a suggestion that the maximum amount of artificial production of antitoxin had been reached.

(ii) The antitoxin level was possibly not maintained at a sufficiently high level over the whole period of potential infection. In this respect it should be remembered that even cows with a high titre succumbed to the disease.

(iii) The antitoxin level, although sufficiently high in the blood stream, may not have been so in the udder.

(iv) Lastly, the most logical explanation would be that antitoxin, which is primarily concerned with the neutralisation of toxin, is probably not the antibody concerned in protection. An antibody concerned more specifically with the invasive power of the organisms would possibly be of more value. In fact, it has been found that the organisms will grow in the presence of antitoxin *in vitro*. Future work could be concentrated on these lines with possibly some advantage.

Summary

1. The various methods of prophylaxis used against summer mastitis are reviewed.

2. Experiments on the use of *C. pyogenes A.P.T.* in cattle for the prevention of the disease are described.

3. The results show no evidence of protection conferred against *C. pyogenes* infection of the udder when *C. pyogenes A.P.T.* or commercial vaccine was used.

4. Certain treatments tested in a small number of cases are briefly described and discussed. No improvement was obtained by the use of any of these measures.

5. Some consideration is given to the immunological significance of *C. pyogenes* antitoxin.

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NEED FOR HEAVY HORSES

In the February 22nd issue of *The Farmer and Stock-Breeder*, Mr. W. J. Cumber, the noted breeder, and Vice-President of the British Horse Society, writes with concern of the number of small farms of 50 acres and less which to-day have a tractor and no horses. "This surely cannot be economic," he proceeds. "The cost of running and maintaining a small tractor, together with depreciation, is too much for a farm of that size to stand. The work can be done more economically by a pair of good young horses, which are maintained on home-grown produce and which appreciate instead of depreciate.

"During the war years, and since, the cry has been maximum food at whatever cost, but the time has now come when economics must be considered, and any slight increase in food production may be more than offset by the cost of imported tractor fuel. Even on the larger farms, there is still room for two or three horses which can do light jobs more economically than tractors, and it is often possible to get on the land earlier, with a team of horses, after wet weather. I am always appalled when I see a tractor hitched to a little trailer, no larger than a donkey cart, standing idling, and wasting precious fuel, while a man loads it with a few trusses of hay or a few pitches of hedge trimmings. Although we work some six tractors on our own farms, we find it both economic and useful to work 14 horses.

"Tractors have their place doing heavy cultivations on a reasonable scale, but the horse still has its place in agriculture. If, for any reason, oil fuel becomes more difficult to obtain, what will happen to the land if no horses are available for cultivations? Woe betide the country if its farmers fall for tractor propaganda."

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Nelson Town Council urges that all animals whether intended for human consumption or not, should be dealt with in public slaughterhouses under the supervision of public officials. The slaughtering of pigs, cattle, sheep and horses should be illegal under any other conditions.

The Protective Value of Leptospiral Vaccines in Hamsters

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A vaccine of *Leptospira icterohaemorrhagiae*, prepared from the livers of infected guinea-pigs, was advocated by Dalling & Okell (1926) for the prophylaxis of yellows in dogs. A phenolised culture vaccine was introduced later, and the results of its use in the field have been generally satisfactory over a number of years. From time to time, however, cases of leptospirosis have occurred among vaccinated dogs. The differentiation on clinical grounds between infections with *L. icterohaemorrhagiae* and *L. canicola* is often difficult (Klarenbeek, 1938; Winsser, 1943; Mills, 1948) so it seemed possible that the latter organism might be responsible for the apparent breakdown of immunity. There is both clinical and serological evidence that canicola fever is widespread among dogs in this country (Stuart, 1946; Joshua & Freak, 1947; Broom & MacIntyre, 1948). Experiments were therefore undertaken to determine the protective value of culture vaccines of *L. icterohaemorrhagiae* and *L. canicola* against infection with the homologous and heterologous species.

After this work was completed, Brunner (1948) reported good results in the prophylaxis of canicola fever in dogs by the use of a vaccine of *L. canicola* in which the organisms had been killed by freezing.

Materials and Methods

Animals.—Hamsters (*Cricetus auratus*), aged six to eight weeks at the beginning of the experiment, were used throughout, because they are highly susceptible to infection with both species of leptospirae.

Leptospirae.—*L. icterohaemorrhagiae*, Winchester, isolated in March, 1946, from a human case of Weil's disease, and maintained in culture by serial passage in guinea-pigs and hamsters. This strain contains both A and B antigens (Petersen, 1938), and has been employed in the preparation of canine vaccines.

L. canicola, dachshund,* isolated in May, 1947, from a dog suffering from canicola fever, and maintained in culture and by serial passage in hamsters.

Vaccines.—Well grown, five- to 10-day cultures in Korthof's (1932) medium, containing approximately 10^7 organisms per ml. The whole culture was used, sufficient phenol having been added to give a final concentration of 0·5 per cent.

Immunisation.—Two doses of 1·0 ml., or three doses of 0·5 ml., were injected intraperitoneally, at weekly intervals.

Challenge.—0·5 ml. of leptospiral culture, inoculated intraperitoneally, either one or six weeks after the final injection of vaccine. The virulence of the culture was checked by a preliminary test in normal hamsters.

Experimental Findings

L. icterohaemorrhagiae Vaccine

Forty hamsters were given two injections of 1·0 ml. of *L. icterohaemorrhagiae* vaccine. One week after the second dose, half of the group were challenged with *L. icterohaemorrhagiae* and the other half with *L. canicola*. In addition, ten normal hamsters were inoculated with each species to act as controls.

Four of the animals challenged with *L. canicola* died as the result of an accident and have been excluded from the protocols. As is shown in Table I, all the control hamsters died. Of the vaccinated animals, 14 of the 16 challenged with *L. canicola* died, and two of the 20 challenged with *L. icterohaemorrhagiae* died. Autopsies were performed on all the dead hamsters, and in every case the appearances were typical of leptospirosis. The presence of leptospirae in the organs was confirmed in a few members of each group; the infecting organism was isolated and checked serologically from at least one hamster in each group.

In Table I are set forth also the probabilities (P) of such findings being the result of chance if the vaccine had no protective action. From these it can be concluded that the vaccine protects hamsters against infection with *L. icterohaemorrhagiae* but not against *L. canicola*.

* I should like to record my thanks to G. C. Knight, Esq., M.R.C.V.S., Royal Veterinary College, London, for his help in isolating strains of leptospirae from dogs.

Table I: Protective Value of *Leptospira icterohaemorrhagiae* Vaccine

Two doses of 1·0 ml. phenolised vaccine at weekly intervals. Challenge inoculation one week after second dose

Challenge	Vaccinated	Controls
L. icterohaemorrhagiae	2/20	10/10
L. canicola	14/16	10/10

Numerator = number dying
Denominator = No. of animals tested

P (*L. icterohaemorrhagiae* and controls) = <0·001
P (*L. canicola* and controls) = 0·25
P (*L. icterohaemorrhagiae* and *L. canicola*) = <0·001

Cross Protection

Three groups of 30 hamsters were used. Each of the first group received 0·5 ml. of *L. icterohaemorrhagiae* vaccine on three occasions at weekly intervals. The members of the second group received the same dose of *L. canicola* vaccine. The third group received both vaccines, 0·5 ml. of each on successive days on each of the three occasions. One week later each group was divided into two batches, of which one was challenged with *L. icterohaemorrhagiae* and the other with *L. canicola*. Normal hamsters, similarly challenged, acted as controls. The results are set out in Table II, in the same manner as before, and from them the following conclusions may be drawn:—

(*a*) Vaccines of *L. icterohaemorrhagiae* and *L. canicola* protect against infection with the homologous species.

(*b*) Joint immunisation protects against both species.

(*c*) *L. icterohaemorrhagiae* vaccine affords no protection against *L. canicola*.

(*d*) *L. canicola* vaccine provides partial protection against *L. icterohaemorrhagiae*.

Table II: Comparative Protective Value of *L. icterohaemorrhagiae* and *L. canicola* Vaccines

Three doses of 0·5 ml. phenolised vaccine at weekly intervals Challenge inoculation one week after last dose

Challenge	Hamsters vaccinated with			
	L. icterohaemorrhagiae	*L. canicola*	Both species	Controls
L. icterohaemorrhagiae	0/15	10/15	0/15	15/15
L. canicola	15/15	0/15	0/15	15/15

Numerator = number dying. Denominator = No. of animals tested.

P (*L. canicola* vaccine and controls)* = 0·02
P (*L. canicola* and *L. icterohaemorrhagiae* vaccines) = <0·001

Interval between Immunisation and Challenge

The effect of increasing the time interval between the final dose of vaccine and the challenge was examined in this experiment. Tests were carried out with heterologous leptospirae only, because it had already been established that immunity to the homologous organism was present after one week.

Groups of 20 hamsters were given three injections of *L. icterohaemorrhagiae* and *L. canicola* vaccines respectively. Five weeks after the beginning of the experiment two further groups were immunised in the same way. It was then possible to challenge, at the same time, animals which had been immunised for one and six weeks respectively. The other details of the test were as before. The results, set out in Table III, show that the response is the same at the two intervals after immunisation; thus there is no apparent increase in the degree of heterologous immunity with time. This experiment also confirms the previous finding that *L. canicola* vaccine affords partial heterologous protection whereas *L. icterohaemorrhagiae* gives none.

TABLE III: PROTECTIVE VALUE OF LEPTOSPIRA VACCINES

Challenge at different time intervals after immunisation
Three doses of 0·5 ml. phenolised vaccine at weekly intervals

Challenge (species and interval)	Hamsters vaccinated with		Controls
	L. icterohaemorrhagiae	*L. canicola*	
L. icterohaemorrhagiae 1 week	—	5/16	10/10
L. icterohaemorrhagiae 6 weeks	—	6/20	
L. canicola 1 week ...	18/19	—	10/10
L. canicola 6 weeks ...	17/18	—	

Numerator = number dying. Denominator = No. of animals tested

P (*L. icterohaemorrhagiae* vaccines, different intervals) = 0·9
P (*L. icterohaemorrhagiae* vaccines, both intervals and controls) = 0·5
P (*L. canicola* vaccines, different intervals) = 0·7
P (*L. canicola* vaccines, both intervals and controls) =<0·001
P (*L. icterohaemorrhagiae* and *L. canicola* vaccines, both intervals) =<0·001

CONCLUSIONS

If one is justified in anticipating that these experimental findings with vaccinated hamsters apply in dogs living under natural conditions, it seems probable that cases of leptospirosis among dogs vaccinated against "yellows" are caused by *L. canicola*. Infection with this organism appears to be very common among dogs, so the use of a combined vaccine should prove of value for the prophylaxis of leptospirosis.

The cross-immunity afforded by *L. canicola* vaccine adds another to the many questions still unanswered concerning the antigenic relationship between these two species of leptospirae. Work is being carried out on some of these problems, but the significance of the findings is not yet clear.

Summary

1. Phenolised vaccines of *Leptospira icterohaemorrhagiae* and *L. canicola* protect hamsters (*Cricetus auratus*) against infection with the homologous organism.

2. Vaccines of *L. canicola* produce partial immunity to infection with *L. icterohaemorrhagiae*.

3. *L. icterohaemorrhagiae* vaccines afford no protection against challenge by *L. canicola*.

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WEEKLY WISDOM

"The remedy for libel was to forget it.

"If one had been libelled, it would be best not to advertise the fact by bringing a lawsuit about it. One should put a good face on it and have confidence that one's good name would survive any attempted defamation.

"Newspapers and others would be pretty safe from action if before publishing doubtful matter they asked themselves three questions: Is it true? Is it kind? Is it necessary?

"Public men must put up with much harsh comment and he believed that criticism was a healthy thing for them, but those who disseminated statements about others, and particularly the Press, must take the risk that a jury might say that what had been said was unfair or untrue. He agreed it to be the duty of the Press to report what it believed to be the truth, where the truth was of public interest, and to comment fearlessly. That was the essential duty of a free Press."

Sir HARTLEY SHAWCROSS, K.C., the Attorney-General, speaking at a luncheon of the Newspaper Society in London, on February 23rd, 1949.

CLINICAL COMMUNICATION

Deafness Following Coal Gas Poisoning in the Small Animals

NORMAN COMBEN, B.SC., M.R.C.V.S.

The following cases are recorded as they illustrate a sequel to coal gas poisoning in the dog and the cat which does not appear to have been mentioned previously in the literature.

Subjects.—An eleven-year-old golden cocker spaniel dog suffering from chronic nephritis to a marked degree, and two castrated male cats, sibs, aged 18 months.

History.—It was presumed that, during the night, one of the cats had turned on a gas tap in jumping on to the gas cooker. The following morning there was a strong smell of gas in the kitchen, and all three animals were unconscious. On being moved to fresh air all made an apparent uneventful recovery, the dog and one cat appearing normal within two hours and the other cat during the day. The writer was not called to the case until the following day, when the owner suspected that all three animals were deaf.

Symptoms.—The animals showed no signs of hearing even the loudest of noises, such as that made by bursting a paper bag a few feet behind their heads. The dog, who was normally a very noisy house dog, had become completely mute. His ears hung limply, he was lethargic, and his appetite was poor. The cats were similarly affected and their ears, although remaining erect, showed no sign of movement. The animals spent the greater part of the day sleeping, but there were no specific symptoms. There were no other nervous symptoms and the pupils functioned normally.

Prognosis.—There seemed to be no mention of this condition in the literature, and as no help could be obtained from colleagues who were approached, a guarded prognosis was given.

Sequelae.—After three days the cat which had suffered most severely at the time of the poisoning began to turn his ear to loud noises. After ten days the other cat did likewise. After 21 days both appeared to be hearing normally. The dog first turned his ear to loud noises after 14 days and barked again after 21 days, but although his hearing has improved considerably, it seems doubtful after six months whether he, the oldest of the three animals, will ever fully regain the faculty.

DISCUSSION.—The owner of the animals wrote a letter containing the facts of the case, and this was published in one of the London evening newspapers. It brought five interesting replies. Each reply was followed up and they may be summarised as follows:—

(1) A 12½-year-old dog, poisoned with anthracite fumes, recovered, but was completely deaf afterwards until its death six months later.

(2) A five-months-old puppy, after exposure to a high concentration of coal gas, was completely deaf on recovery until its death at the age of 10½ years.

(3) A cat, poisoned with coal gas, was completely deaf and blind afterwards. It recovered both its hearing and sight within ten days, but also suffered from pneumonia which is stated to have resulted in a chronic bronchitis.

(4) A dog, poisoned with boiler fumes, was completely deaf afterwards, but could hear normally again within three weeks.

(5) One writer stated that temporary deafness was a common sequel to accidental or suicidal coal gas poisoning in the human, but this has not been borne out by a search of the relevant text.

. . . . . .

These facts are recorded in the hope that they may be of some guidance in the prognosis of future cases. Although accidental coal gas poisoning is reasonably common in small-animal practice, there seem to be no previous records of such nervous sequelae as are mentioned here.

WILD BIRDS AND THE LAND

Increasing interest in wild bird life, both from the economic and natural history points of view, has led to the publication of a bulletin under the above title by the Ministry of Agriculture and Fisheries (H.M. Stationery Office, 2s. 6d.). The bulletin has been prepared by F. Howard Lancum, advisory ornithologist to the Ministry, who has brought together a large collection of fine photographs by some of Britain's leading bird photographers. Each of the 50 species illustrated is accompanied by a note on its physical characteristics and behaviour patterns, along with a statement on its economic significance where this is known. A concluding chapter on the use and method of constructing nest-boxes and bird-tables adds to the value of a publication which, says *Nature*, could only be published at its present price on behalf of a Government department.

ABSTRACTS

[Episiotomy in Veterinary Obstetrics. FREIERMUTH, G. J. (1948.) *J. Amer. vet. med. Ass.* **113.** 231-2. (2 figs.).]

Episiotomy is practised to prevent laceration of the vulva and perineum. It is often necessary in a first calf heifer with an oversized foetus The procedure allows greater freedom to conduct manual manipulation of the foetus and is also helpful in embryotomy. The operation consists of making a medio-lateral perineal incision under posterior epidural anaesthesia. This incision commences at a point 1 inch below the dorsal commissure of the vulva and extends in a dorsolateral direction, forming an arc towards the rectum ending ventrolateral to the anus. In depth the incision extends through the constrictor muscle, the constrictor vestibule muscle and the mucous membrane of the vulva into the vaginal tract. The sphincter ani muscle must not be injured. A branch of the internal pudic artery or vein may be severed, but the haemorrhage is easily controlled. The wound is closed by interrupted sutures using No. 3 chromic catgut. The author's remarks are confined mainly to the use of episiotomy in the cow, but he has also found it beneficial in the bitch and sow. C. F.

* * * * *

[Water-in-Oil Emulsions for Delaying Absorption of Penicillin in Horses. DOLL, E. R., & WALLACE, M. E. (1948.) *Amer. J. vet. Res.* **9.** 254.]

The authors have compared two proprietary water-in-oil emulsions for the administration of penicillin against penicillin in saline. The assays were conducted in horses. The first emulsion, called penol, contained oxycholesterol in vegetable oil; the second, pendil, comprised cholesterol derivative 11 parts, peanut oil 20 parts w/v, and 2 per cent. beeswax w/v. These products were combined with various concentrations of penicillin in saline.

The penol diluent was found to prolong detectable blood levels of penicillin for 1 to 2 hours longer than by the intra-muscular injection of penicillin in saline. An emulsion of pendil (3 c.c. pendil with 1 c.c. saline containing 100,000 units penicillin) gave results comparable to those obtained with the Romansky vehicle. However, the pendil emulsion caused tissue irritation at this level and altering the proportions of pendil and penicillin to obviate this irritation resulted in more rapid absorption.

Penicillin-in-oil and wax (Romansky formula) is considered a more suitable vehicle for use in large animals. D. L. H.

REVIEW

The Journal of the Association of Veterinary Students

The fourth number of this journal contains most interesting articles on veterinary teaching, and student life, in Sweden, Norway, Holland and France. The arrangement of the course of veterinary studies, and facilities for clinical teaching, vary considerably in the different countries, and the comparison is instructive. Dr. Wooldridge writes on the Animal Health Trust, which has already spent over £37,000 on veterinary studentships, scholarships and fellowships. The first of a series of articles on careers deals with the attractions of the Colonial Service, but fails to mention that there is still no provision for a gratuity to those who wish to retire, perhaps for family reasons, after ten years' service.

Copies of this number of the journal upon which the A.V.S. is to be congratulated, may be obtained free of charge from the Editor, School of Veterinary Science, 38, Bedford Street North, Liverpool, 7. Future numbers will be available for an annual subscription of 5s.

The Milk Marketing Board has purchased 20 acres of land forming part of Green Grove Farm in the Vale of Aeron, Cardiganshire, for an A.I. centre and milk factory. The centre will provide accommodation for 25 to 30 bulls. The factory is expected to handle at least 30,000 gallons of milk a day.

* * * * *

Plans for developing agricultural education in Somerset with a link-up with Bristol University (where a veterinary school recently has been established) are being considered by Somerset F.U. executive.

REPORT

HIGHER CIVIL SERVICE REMUNERATION

Report of the Chorley Committee

The report of the Committee which met, under the chairmanship of Lord Chorley, "to advise Ministers as to the general level of remuneration of the higher posts of the Civil Service—administrative, professional, scientific and technical—and on any particular principles involved," has now been published.

In view of the fact that, in April of last year, the N.V.M.A. submitted to the Chorley Committee a memorandum on the subject of salaries of veterinary officers—and, in particular, of the Chief Veterinary Officer—of the Ministry of Agriculture, it should perhaps be made clear at the outset that the Committee interpreted their terms of reference as "covering primarily the grades of Under Secretary (£2,000) and above in the administrative class, and comparable grades in other classes." In other words, the salary of the Chief Veterinary Officer, and not the salaries of all his subordinates, came within the scope of the Committee's deliberations; although consideration was given to the relationship between the grade carrying a salary of £2,000 and the grade next below.

The higher posts in the Civil Service were considered under the following headings: (*i*) administrative, (*ii*) legal, (*iii*) scientific, (*iv*) medical, (*v*) works group (architects, engineers, etc.), (*vi*) miscellaneous (including Chief Veterinary Officer, Ministry of Agriculture) though it was recognised that "many professional and technical posts carry considerable administrative responsibilities."

The Committee express agreement with the Asquith Committee's view that the salaries and other conditions of service of the higher posts in the Civil Service must be sufficiently attractive to secure an adequate supply of suitable recruits, and they agree also with the Tomlin Commission's view that "Civil Service remuneration should reflect what may be described as the long-term trend, both in wage levels and in the economic condition of the country." The Committee add that none of their witnesses had argued that Civil Service salaries should be related to the highest individual salaries that can be attained in the most highly competitive professional and commercial posts, and are satisfied that they should not be so related. Conditions of service and the question of prestige were also borne in mind.

Recommendations

The Committee have made definite recommendations as regards increases of salary for the administrative class. For example, it is recommended that an Under Secretary at present receiving £2,000 should in future receive £2,500, and that the salary of an Assistant Secretary should be increased from £1,700 to £2,000. No specific rates of salary are recommended for the other classes, but the Committee consider that "*in general they should maintain their present relativities with the administrative class.*"

"In the past, many of the higher professional and technical posts in the Civil Service were underpaid, but a great deal has been done in the last few years towards putting that right, and on the whole we consider the present relativities broadly reasonable. Obviously, professional and technical salaries in the Civil Service must be reasonably related to professional and technical salaries in other kinds of employment as well as to other Civil Service salaries, and on that ground also we think they should be improved *pari passu* with administrative salaries."

"We have been impressed by the value of the work done by the committees presided over by Sir Alan Barlow on the remuneration of the legal and scientific classes of the Civil Service. It is clear to us not only that the scales laid down in consequence of the reports of these committees, and their relativities to the scales of the administrative class, are more satisfactory in themselves than those of the other classes under consideration, but that they have proved welcome on the whole to those belonging to the legal and scientific classes. We therefore recommend that similar committees should be set up as soon as is reasonably practicable to deal with other classes on the same lines."

"While we are on the whole satisfied with the salary relativities between the administrative class and the professional and technical classes, we are less satisfied with their career relativities. This matter does not, perhaps, fall strictly within our terms of reference, but we recommend that the complements of posts in the various classes should be re-examined, with the object of ensuring that each class as a whole provides a sufficiently attractive career for its recruits."

The Committee also recommend that inter-departmental consultation and integration should be developed in the professional and technical branches of the Service; that superannuation arrangements for widows and dependants should be improved; and that the system of crediting late entrants (those with post-graduate

experience outside the Service) with "added years" for superannuation purposes should be extended. "The possibility of introducing a contributory superannuation system for the Civil Service deserves urgent and thorough examination."

Sources of Evidence

Oral evidence, supplemented in some cases by written evidence, was given to the Committee by nine distinguished individuals, including the Chief Medical Officer to the Ministry of Health; and by four associations, including the Institution of Professional Civil Servants, and the Ministry of Health Medical Staff Association. The N.V.M.A. and the Council of Women Civil Servants, which supplied written evidence, were not invited to give oral evidence. The Committee also obtained information from various corporations, local authorities, and firms.

Salaries of Members and Staffs of Public Boards

Appendix II of the Report is quoted in full below as a matter of general interest.

(a) Members

"The following rates are taken from a reply given by the Chancellor of the Exchequer in the House of Commons on February 17th, 1948 (Official Report, Written Answers, cols. 191-202). Expenses allowances have been granted, or are under consideration, in all cases in addition to salary.

£8,500 Chairman of the National Coal Board
Chairman of the British Electricity Authority.
Chairman of the Steel Board
Chairman of the British Transport Commission
(present holder draws only £7,000).
£7,500 Chairman of the British Overseas Airways Corporation.
£7,000 Chairman of the Railway Executive.
£6,500 Chairman of the British European Airways Corporation.
£6,000 Chairman of the British South American Airways Corporation.
£5,000 Managing Director of Cable and Wireless Ltd.
Deputy Chairman of the National Coal Board (personal).
Full-time Members of the National Coal Board.
Chairman of the Colonial Development Corporation.
Chairman of the Raw Cotton Commission.
Vice-Chairmen (2) of the British Electricity Authority.
Chairman of the Overseas Food Corporation.
Full-time Members of the British Transport Commission.
Full-time Members of the Railway Executive.
Chairman of the London Transport Executive.
Chairman of the Road Transport Executive.
Chairman of the Docks Executive.
Chairman of the Hotel Executive (personal).

(b) Staffs

The following rates are taken from the Annual Report and Statement of Accounts of the National Coal Board for the year ended December 31st, 1947, Appendix V.

Senior Officials at Headquarters and Members of Divisional Boards.—Salaries of members of Divisional Boards are fixed in the light of qualifications and experience, normally from £2,000 to £5,000; Chairmen normally receive £4,000. Senior officials at the Board's Headquarters filling posts like Secretary, Chief Mining Engineer, Director-General of Finance, Director-General of Marketing, Director-General of Labour Relations, receive personal salaries, none exceeding £5,000.

Divisional Headquarters.—Assistant Production Director, up to £3,000.

Areas and Collieries.—Area General Manager, up to £4,000. Area Production Manager, up to £3,000

Marketing Department.—Grade 1, £2,500—£3,000."

G. P. W.

CARRIAGE OF POULTRY BY RAIL

The Ministry of Agriculture and Fisheries announces that it has made an Order, entitled The Live Poultry (Regulation of Sales, Exhibitions and Movements) (Amendment) (No. 2) Order, 1949, which is designed to meet the difficulty that many poultry keepers have experienced in carrying out movements of poultry. This difficulty arises from the fact that the existing Order relating to restrictions on the movement of poultry prohibits absolutely the movement of birds through the two areas described in the Schedule to the Live Poultry (Regulation of Sales, Exhibitions and Movements) (Amendment) Order, 1949. As these two areas contain the important railway centres of London and Birmingham, they have presented a serious obstacle to the movements of birds that take place in the normal course of trade.

The Order, which came into operation on March 1st, allows the movement of poultry by railway through the two areas in question, provided the birds are consigned on a through booking from stations outside either of the areas; the conveyance of such poultry by road, for example, between two railway termini or between two stations on different railway systems in either of the areas is permissible. At the same time the consignment of poultry from stations within the areas is prohibited, except by licence issued by the Ministry.

Copies of the new Order and of the earlier Orders which it amends may be obtained free of charge on application to the Ministry of Agriculture and Fisheries, 28-32, Chester Terrace, Regents Park, London, N.W.1.

The Supplementary Veterinary Register

Section 5 of the Veterinary Surgeons Act, 1948, abolishes, except for certain minor treatments and operations, unqualified veterinary practice as from the expiration of one year from the commencement of the Act, unless an Order in Council of the Privy Council postpones the coming into effect of this portion of the Act for any period not exceeding three years.

It is understood that it is not intended to postpone such implementation and it is necessary to create the Supplementary Veterinary Register provided for under section 6 of the Act. The purpose of this register is to make provision for *bona fide* unqualified practitioners in the same way as provision was made for such unqualified practitioners when the unqualified practice of dentistry was prohibited by the Dentists Act, 1921. Parliament has made similar provision in other professions where the use of certain professional titles is restricted to qualified persons, although unqualified practice itself may not be abolished.

The conditions for registration in the Supplementary Veterinary Register are contained in section 6(2) of the Act, which reads as follows:—

"The conditions for registration in the Supplementary Veterinary Register are that the applicant has attained the age of twenty-eight and satisfies the Council of the Royal College of Veterinary Surgeons:—

(*a*) that he is of good personal character;

(*b*) that during the ten years immediately preceding the application he has for a period of not less than seven years in the aggregate been engaged in the United Kingdom as his principal means of livelihood in diagnosing diseases of animals and giving medical or surgical treatment to animals:—

Provided that the Council may authorise the registration of a person under this section who has been engaged as aforesaid during the said ten years notwithstanding that he has been so engaged for less than seven years in the aggregate if the Council are satisfied that the time during which he was so engaged was reduced by reason of his serving in His Majesty's forces or being engaged in work of national importance and that his registration would not be prejudicial to the public interest."

However, if it appears to the Council that the principal means of livelihood of an applicant were the treatment and operations contained in the first schedule to the Act then the Council need not register the applicant.

Generally speaking, the first schedule treatment and operations are:—

"The rendering in an emergency of first aid for the purpose of saving life or relieving pain.

The destruction of any animal by painless methods.

The performance of any of the following operations, that is to say:—

(*a*) castration or caponising;

(*b*) the spaying of a pig not over the age of three months;

(*c*) the tailing of a lamb;

(*d*) the docking of the tail of a dog before its eyes are open;

(*e*) the amputation of the dew claws of a dog before its eyes are open."

Applications for registration in the Supplementary Veterinary Register under subsection 4 of section 6 of the Act must be made before the coming into operation of the prohibition of unqualified practice; that is, before the end of July this year unless an Order in Council should extend the time. Further, the applications must be made on a prescribed form and accompanied by a prescribed fee.

The Act lays down that the word "prescribed" means prescribed by the Council of the Royal College of Veterinary Surgeons and confirmed by order of the Privy Council which latter order is exercisable by a statutory instrument under the Statutory Instruments Act, 1946.

The Form of Application has now become a statutory instrument and has just been published. (*See opposite.*)

The Council, R.C.V.S., will now have to print sufficient copies of the Form of Application and distribute these to all persons who may make application, together with general instructions. When the form duly completed by an applicant has been received by the Council it will be given consideration and the persons named as referees will be asked for certain information and also asked all relevant questions which may arise out of each application.

The Council, it is understood, may also make such other enquiries of various kinds as may be considered proper. When all necessary information is to hand the Council will make a decision as to whether the applicant should be admitted to the Supplementary Veterinary Register or not.

(*Continued below completion of form, col. 1, p. 132.*)

STATUTORY INSTRUMENTS

1949 No. 325

VETERINARY SURGEONS

The Supplementary Veterinary Register (Confirmation of Form of Application Regulation) Order of Council, 1949

Made - - - - 1st March, 1949

At the Council Chamber, Whitehall, the 1st day of March, 1949

By the Lords of His Majesty's Most Honourable Privy Council

Whereas the Council of the Royal College of Veterinary Surgeons in exercise of the powers conferred upon them by the Veterinary Surgeons Act, 1948(a), have submitted for confirmation by the Privy Council a Regulation prescribing the form of application to be completed by an applicant for registration in the Supplementary Veterinary Register and prescribing the fee payable on such application:

Now, therefore, Their Lordships, having taken the said Regulation, as set forth in the Schedule to this Order, into consideration, are pleased to confirm the same.

This Order may be cited as The Supplementary Veterinary Register (Confirmation of Form of Application Regulation) Order of Council, 1949.

E. C. E. Leadbitter.

SCHEDULE

Regulation referred to in the foregoing Order of Council.

SUPPLEMENTARY VETERINARY REGISTER.

Form of application to be completed by an Applicant for registration under Section 6 of the Veterinary Surgeons Act, 1948.

Notes 1 to 5 should be carefully read and complied with in completing the form.

Names to be given in full in capital letters, *surname last*. If you are practising at more than one place, all addresses must be given.

I .....
of (residence) .....
now practising at .....
.....
hereby apply for registration in the Supplementary Veterinary Register under Section 6 of the Veterinary Surgeons Act, 1948.

I Do Solemnly and Sincerely Declare as Follows:—

1. I was born at ..... on ..... and annex my birth certificate.
2. My National Registration Number is .....
3. * I have never been convicted in the United Kingdom or elsewhere of an offence which, if committed in England, would be a felony or misdemeanour.

* Strike out whichever is inapplicable.

OR

* I have been convicted in the United Kingdom or elsewhere of an offence or offences which if committed in England would be a felony or misdemeanour, and *all* of which are set out on the sheet marked . . . which is annexed hereto.

4. * I have never been registered in the Register of Veterinary Surgeons.

* Strike out whichever is inapplicable.

OR

* I was registered in the Register of Veterinary Surgeons from . . . to . . . and my name was removed from the Register for the reasons set out on the sheet marked . . . which is annexed hereto.

5. I have, during the ten years immediately preceding the date of this application, for a period of ..... years in the aggregate been engaged in the United Kingdom as my *principal* means of livelihood in *diagnosing* diseases of animals *and* giving medical or surgical treatment to animals.

6. The places at which and the dates between which I have been so engaged as aforesaid are as follows:—

See Note (i).

All places at which *practice* has been carried on must be given.

Address in full	Dates	
	From	Until

In the space below the applicant must write in his own handwriting the following:—

"*It is on this work such as is usually performed by Veterinary Surgeons and which was carried out by me personally at the places and during the period stated that my application is based.*"

.....
.....
.....
.....

* Strike out whichever is inapplicable.

* While so engaged I have had no other means of livelihood.
* While so engaged I have had other means of livelihood as follows:—

The full nature of all other means of livelihood must be stated and the times and places where carried on set out.

.....
.....
.....
.....

7. I was not, during the periods stated in paragraph 6, engaged as my principal means of livelihood wholly or mainly in the giving of treatment or the performing of operations specified in the First Schedule to the Veterinary Surgeons Act, 1948.

8. The following persons who have personal knowledge of me and my work are named by me as referees and can testify to the truth of the above statements. They are not related to me and have no financial interest in my business nor in the preparation of this my application for registration.

See Note (ii).

Name	Profession or status	Address	Number of years he has known me

(a) 11 and 12 Geo. 6. c. 52.

See Note (iii).

9. I submit the further details set out in documents numbered ..... which I declare to be true.

10. I have filled up this declaration in my own handwriting AND I make this declaration conscientiously believing the same to be true and by virtue of the Statutory Declarations Act, 1835.

(Signed) .....

Declared at .....

on .....

Before me .....

Magistrate
Justice of the Peace
Commissioner for Oaths.

This Declaration must be made before a Magistrate, Justice of the Peace or a Commissioner for Oaths, and requires to be impressed with a 2s. 6d. stamp.

NOTES

(i) If the aggregate of the periods given in paragraph 6 is less than seven years as a result of the applicant's serving with His Majesty's Forces or being engaged in work of national importance, the applicant should annex a statement giving full details of such service or work.

(ii) Give the names and addresses of *at least* two referees. They should be persons of standing such as Magistrates, Barristers-at-Law, Advocates, Registered Veterinary Surgeons, Registered Medical Practitioners, or Solicitors, who know you well, either in private life or in business. One, at least, should be well acquainted with you in private life. The referees given must between them be able to testify so as to cover the periods of practice and places on which the application is based.

(iii) The applicant may, if he so desires, furnish further details in support of his application. Any such statement and all other documents (except the birth certificate) which are annexed to the application must be numbered and the numbers entered in paragraph 9. If no documents (other than the birth certificate) are annexed, paragraph 9 should be deleted.

(iv) Every deletion or alteration in the declaration must be initialled by the Magistrate, Justice of the Peace or Commissioner for Oaths before whom the declaration is made, and every statement annexed hereto must be signed by the applicant and duly marked by the Magistrate, Justice of the Peace or Commissioner for Oaths.

(v) **The application must be accompanied by the prescribed fee of one guinea.**

Readers who are interested in this subject should study the form with care, and also the phraseology of the above quoted section 6 of the Act. Particularly to be noticed are the period of practice necessary and the nature of practice necessary. The applicant must prove that his *principal* means of livelihood has been in *diagnosing* diseases of animals AND giving *medical* or *surgical* treatment to animals.

Further indication of the nature of the work and standard of skill are shown by the declaration (which the applicant has to write in his own handwriting): "work such as is usually performed by veterinary surgeons."

The purpose of the Act is to ensure that persons whose *principal* means of livelihood has been in unqualified veterinary practice of the same nature as that of a veterinary surgeon for a certain period of time shall not suddenly be completely deprived of their principal means of livelihood. From this it follows that the Supplementary Veterinary Register is not designed for persons who have carried on *some* unqualified practice although it may be of the same nature as that carried on by a veterinary surgeon and although such work may have been in the course of other general work concerned with animals—such as boarding kennels, pet shops, etc.

It is understood that lists of the names of applicants for registration will be published from time to time in order that objections to registration may be lodged with the Council together with any supporting evidence, so that such evidence may be taken into consideration if applicable.

It is hoped to publish further information on the Supplementary Veterinary Register from time to time.

CONGRESS OF BIOCHEMISTRY

The first International Congress of Biochemistry will be held at Cambridge from August 19th to 25th under the presidency of Professor A. C. Chibnall, F.R.S. The work of the congress has been divided into the following sections: Animal Nutrition and General Metabolism (chairman, Sir Jack Drummond, F.R.S.); Microbiological Chemistry (Miss M. Stephenson, F.R.S.); Enzymes and Tissue Metabolism (Professor R. A. Peters, M.D., F.R.S.); Proteins (Mr. K. Bailey, PH.D.); Clinical Biochemistry (Professor E. J. King, D.SC.); Structure and Synthesis of Biologically Important Substances (Professor A. R. Todd, F.R.S.); Cytochemistry (Professor J. N. Davidson, M.D.); Biological Pigments—Oxygen Carriers and Oxidising Catalysts (Professor D. Keilin, F.R.S.); Hormones and Steroids (Professor F. G. Young, D.SC.); Chemotherapy and Immunochemistry (Sir Charles Harington, F.R.S.); Plant Biochemistry (Mr. C. S. Hanes, F.R.S.); Industrial Fermentations (Mr. H. J. Bunker). Professor E. C. Dodds, M.D., F.R.S., is chairman of the executive committee and further information may be had from the honorary organiser of the congress, 56, Victoria Street, London, S.W.1.

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Isle of Man Legislature has rejected a Milk and Dairies Bill giving power to describe milk designations and fixing a period of five years during which dairies and cow houses should be brought up to a prescribed standard.

IN PARLIAMENT

Call for Enquiry into Blood Sports

With the rural vote, and the emphatic rejection by the House of Mr. Seymour Cocks's Protection of Animals (Hunting and Coursing Prohibition) Bill very much in mind, the Government was adjudged to have little enthusiasm for the Prohibition of Foxhunting Bill, due for debate shortly after we went to press with this issue.

Possibly anticipating this, Mr. Anthony Greenwood and Mr. Cocks, the two leading opponents of blood sports, with 58 other M.P.s, on Friday of last week tabled a motion calling for an enquiry into the law relating to cruelty to wild animals.

It is possible that the Government might concede such an enquiry, as there is strong feeling in the Labour party on the matter.

So far as Mr. Fairhurst's Bill "To prohibit the hunting of foxes for purposes of sport; and for purposes connected therewith" is concerned, the text which was published last week shows that the proposed penalties are a fine not exceeding £25, or three months imprisonment, or both, for "any person who, for the purposes of sport, causes, procures, assists at or takes part in the hunting of any fox."

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Docking and Nicking of Horses Bill

Sir Dymoke White's Bill "To restrict docking and nicking of horses and to prohibit the importation of horses with docked or nicked tails" secured its second reading without a division on Friday of last week.

Sir DYMOKE WHITE said it was proposed that the prohibitions should take place from January 1st, 1950. Clause 1 (2) dealt with permission for docking by members of the Royal College of Veterinary Surgeons for reasons of health. That was a reasonable Clause. Clause 2 prohibited the importation into this country of horses with docked or nicked tails. He understood that that was going to be the cause of a little difficulty, but they who supported this Bill were prepared in Committee to see if there was not some way of overcoming the difficulty which had arisen in connection with Eire and Northern Ireland.

Clause 3 says: "'horse' includes stallion, gelding, colt, mare, filly, pony, mule and hinny."

He must say he was rather against the word "hinny," but he understood that it was another word for "jenny."

Earlier in his speech Sir Dymoke White gave as the principal objection to docking and nicking, the deprivation of the animal of "nature's instrument to remove flies and to give the hind parts warmth"; the fly muscle did not extend to the hind quarters. In the case of heavy horses docking was done, in the first place, for smartness and to show off the strength of the animal's hind quarters. It was normally done with stallions. It was also performed because when tails were long they fouled the reins. He did not think much of men who could not get over those little troubles. Every hackney was docked, so far as he knew: their tails stuck up and he did not think it was a very beautiful sight.

He had received no objections from any source since this Bill was published, but on the contrary he had received encouragement from all parts of the country. The breed societies—this was his own personal opinion—would be rather thankful. Fifty per cent. of the members docked their horses, and the other 50 per cent. did not. If it was the law of the land that nobody should dock a horse everyone would be satisfied. He was glad to say that there was very little nicking done in this country. The horse's tail was not normally docked and nicked at the same time. If a horse had a long tail, it was cut and also a muscle underneath it, with the result that the poor brute, as it were, had got its tail up for life. He was sure every hon. Member would feel that that was a horrible practice and ought to be stopped, as was proposed by the Bill.

Mr. M. Philips Price, seconding the motion, said that was a very necessary, simple and humane Bill, and he hoped the House would give it a second reading, because he was sure it was timely. Undoubtedly the practice of docking horses' tails was declining. One veterinary surgeon in his district told him he had not had a request to dock a horse's tail for a very long time. Public opinion was definitely turning against it, because it was much less practised than it used to be. Nevertheless, the practice still continued, and it was desirable that the House should take steps to stop it altogether.

This country was behind other countries in this matter, which was rather unusual, because in all questions concerning the treatment of animals we as a nation were most sensitive and generally in advance of other countries. Several states of the United States of America had prohibited this practice, as had Norway and Germany. It was not actually prohibited in Australia, New Zealand, South Africa and Canada, but it was not the practice in those countries to dock tails. He thought it was time that we got rid of what was really nothing more than an anachronism.

N.V.M.A. Support

Sir T. Moore: The first argument against the Bill was that the horse required more time to clean. That was true, but that was an argument of laziness and one which would not appeal to any horse lover. The second was that under the Animals (Anaesthetics) Act, 1919 an anaesthetic must be used during the actual operation. That Act was not always observed. Many of them knew of cases on farms in which there was no thought of calling in a veterinary officer. They took a knife or a hatchet, and that was the end of the tail. In the same connection they did not entirely regard the actual operation as a supreme misfortune to the horse. It was what happened afterwards—the discomfort and misery which the horse had to experience when he was deprived of that main defence.

The arguments which he had advanced were only the arguments of laymen, but they were powerfully reinforced by those people who alone were competent to give an expert and professional view. He referred to the veterinary profession. The Veterinary Surgeons Act, 1881, laid down that any veterinary officer would be guilty of unprofessional conduct if he were guilty of inflicting unnecessary suffering upon an animal during an operation. The supporters of the Bill held that docking was cruelty both during and after the operation. Therefore, the Act of 1881 would be infringed by permitting docking to continue. In 1938 this very same Bill was introduced in the House of Lords and passed through all its stages there. At that time at all events that other place was composed mainly of farmers, and it was significant that it passed through all its stages. The National Veterinary Medical Association fully and wholeheartedly supported the Bill. They remembered the famous International Veterinary Congress held in 1939, when a special resolution was adopted deploring docking and calling for its prohibition in future. As had been said, docking had for long been prohibited right through the various countries in free Europe and also in the North Americas. He trusted that we who prided ourselves on being a horse-loving nation would no longer permit this stigma on our national good name.

The Under-Secretary of State for the Home Department (Mr. Younger) said he would offer the House no case in favour of docking and nicking; on the contrary the Government supported the second reading of the Bill for its abolition.

There had been hints given in the course of the Debate that certain difficulties might arise over Clause 2, which concerned the importation into the United Kingdom of horses with docked or nicked tails. They were more properly matters for Committee, but the difficulties did not imply the throwing of any doubt upon the advisability of prohibiting importation as, so to speak, a reinforcement of Clause 1, which created the substantive offence. If docking and nicking was to be illegal in this country, obviously from the point of view of enforcement it was right that, if they could, they should also arrange to prohibit importation, otherwise enforcement in this country would be made a good deal more difficult. It entailed putting additional duties on the existing veterinary staff, who were very scarce at the present time. Some adjustment would have to be made in the provisions of this Bill to meet that problem.

He wished to emphasise that their only concern in this matter was to ensure that whatever they put into the Bill with regard to restrictions or complete prohibition of importation was something which they could subsequently make effective.

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Baiting of Animals Bill

A further private member's Bill which secured an unopposed second reading on Friday, March 4th, was that presented by Sir William Darling "To make it unlawful to have possession of any animal trained or prepared for use in fighting or baiting or of any instrument or appliance designed or adapted for use in connection with the baiting of an animal." The Bill is primarily designed to deal with loopholes by which the existing law to prohibit cock-fighting can be evaded, and in moving, Sir William Darling said that cock-fighting was a cruel sport and had been illegal since 1835, but, none the less, like many other irregularities, it continued and did so under conditions of great secrecy. These matchings of cocks—"mains"—were held in remote parts of the country, usually in public places, but sometimes actually in private premises. Prosecution, it had been found, had been extremely difficult, and over a period of five or six years comparatively few prosecutions had been successfully established. A subsection (3) of Clause 1 gave protection to legitimate breeders, which was the rock on which the previous Bill (Sir Robert Gower's, 1938) was wrecked.

Sir Jocelyn Lucas felt the Bill did not go quite far enough. In his opinion making spurs, or the possession of spurs, illegal was not going to stop cock-fighting, the only way was by making the penalties far more severe. They could make it illegal to breed game fowl altogether; the other and more practicable alternative was for the R.S.P.C.A. to offer really substantial rewards for anyone who would give information of a main, or of people who went in for cock-fighting in order that their identities might be known.

The Bill was committed to a Standing Committee.

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Questions

Slaughter of Horses

Plea for Commission of Enquiry

On Monday last Mr. Collins asked Mr. Tom Williams, Minister of Agriculture, if he would appoint a commission of enquiry into the question of the unregulated slaughter and trade in horses.

Mr. T. Williams: No, sir. I can see no useful purpose in such an enquiry.

Mr. Collins then asked, in view of a conflict between information furnished in the Press and by the Minister, whether Mr. Williams agreed that a commission of enquiry into the matter might allay a good deal of public uneasiness.

Mr. T. Williams: The point of these rumours—— (Cries of "They are not rumours!") If hon. members will provide evidence of any specific case of unnecessary cruelty or pain, I shall be glad to look at it at any time. So far as the horse population is concerned, it is obvious, since we started the war with 50,000 tractors and we now have 250,000 tractors on our farms, that the need for horses is not what it was. There is the question, of course, that the younger generation of farmers prefer mechanics to horses and seven-day-week feeding.

Mr. Stanley: Is not the Minister aware that I, in common with other members, am constantly getting letters from constituents who are genuinely disturbed by various things appearing in the newspapers? (Cheers.) Would it not be a good thing to have an authoritative enquiry which would definitely set out the facts, and if there is anything wrong recommend ways in which it can be obviated. (Renewed cheers.)

Mr. Williams: I am willing to look at the subject again. So far as my knowledge goes I do not see any real reason for an enquiry, but I will gladly look at the question again.

Export Under Licence

On the same occasion Mr. De La Bere asked if, in view of the fact that horses exported from Britain to Belgium were almost exclusively slaughtered for food, the Government would arrange for them to be slaughtered humanely at home instead of undergoing great suffering on voyages to Belgium.

Mr. T. Williams replied that no horse was exported to Belgium except under licence for work.

Mr. S. Silverman asked if the Minister meant that so long as he obtained a statement that a horse was to be used for working, and was not to be slaughtered, he then issued a licence and washed his hands of the matter.

Mr. T. Williams: There are some forms of international arrangement which one must obviously abide by. If a certificate is given that horses exported from this country are for working purposes and not for slaughter, one must obviously accept the certificate. (Cries of dissent.)

Mr. S. Silverman: Is not my right hon. friend under some obligation to see that the conditions are complied with? (Cheers.)

Mr. T. Williams replied that investigations were taking place into a case brought to his notice.

Mr. Stanley asked if the Minister had power to take action if he found that conditions had been abused.

Mr. T. Williams: I have only the power to prevent the same person from importing any more horses from this country.

Replying to Mr. P. Freeman, Mr. Williams said the total number of horses on agricultural holdings in the United Kingdom in 1948 was 703,000, and in 1938, 1,101,000. He saw little risk of the horse becoming extinct in this country in the foreseeable future. For certain purposes horses had an advantage over mechanical power.

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Horses (Export)

Mr. Peter Freeman (Mar. 2nd) asked the President of the Board of Trade how many horses were exported in 1948; to what countries; and at what prices.

Mr. J. Edwards: As the answer contains a number of figures, I will, with my hon. Friend's permission, circulate a statement in the *Official Report*.

Mr. Freeman: Has my hon. Friend any information about what happens to these horses when they reach the other side, and is he satisfied with the treatment they receive?

Mr. Edwards: That is an entirely different question.

Following is the statement:

United Kingdom Exports of Horses (including ponies), Year 1948

Country	No.	Value £
To Eire	2,301	2,191,822
„ France	1,031	333,624
„ Union of South Africa	148	152,745
„ Australia	92	135,449
„ United States of America	155	94,845
„ Italy	729	67,511
„ India	38	59,896
„ Belgium	1,157	50,469
„ Brazil	16	43,925
„ Argentine Republic	29	43,527
„ New Zealand	42	42,707
„ Ceylon	55	41,435
„ British Malaya	62	40,455
„ Venezuela	38	33,515
„ British West Indies	52	29,292
„ Canada	16	16,751
„ Poland	50	13,792
„ Turkey	11	9,600
„ Channel Islands	76	6,304
„ Panama	11	5,200
„ Pakistan	40	5,060
„ All other countries	127	33,187
Total	6,276	3,451,111

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Slaughtered Horses, Belgium

Mr. Challen (Mar. 1st) asked the Minister of Agriculture whether, having regard to the fact that Belgian importers give a written guarantee that horses exported from this country to Belgium are exported for work and not for slaughter, he will investigate the circumstances in which horses disembarked from the s.s. "Aire" at Antwerp on February 15th, 1949, were taken to the Antwerp abattoir and were slaughtered in the presence of a chief inspector of the Royal Society for the Prevention of Cruelty to Animals on February 16th, 1949.

Mr. T. Williams: Yes, Sir. I am having enquiries made and will write to the hon. Member as soon as possible.

Mr. Challen: Will the right hon. Gentleman consider, if as the result of his enquiries he finds the facts to be true, that some penalty should be attached to this breach of guarantee to prevent this kind of thing from happening?

Mr. Williams: Yes, but it would be difficult to impose a penalty upon an importer resident in Belgium. What we could do, however—and I am considering the point at the moment, although I do not want to prejudice this case while enquiries are being made—would be to consider the possibility of refusing further permits to that importer.

Mr. Sutcliffe: Is it not a fact that nearly all horses which have been exported to Belgium from this country as working horses have been killed almost immediately? Belgium does not want all these working horses we are sending.

Mr. Williams: As the hon. Member must be aware from a previous Question put to me, I stated then that horses were permitted to leave for Belgium only on the definite written understanding that they were to be for working purposes and not for slaughter.

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Foot-and-Mouth Disease

Mr. Granville (Mar. 2nd) asked the Minister of Agriculture if he is aware that an outbreak of foot-and-mouth disease has occurred at Scole and Leiston, Suffolk, involving the destruction of valuable pedigree animals; and whether the standstill order has been put in operation over the area; and what action he has taken to prevent the spread of the disease.

Mr. T. Williams: Outbreaks of foot-and-mouth disease at Scole and Leiston were confirmed on February 16th and 18th, respectively, and it was unfortunately necessary to slaughter many valuable animals, including some pedigree cattle. Restrictions on the movement of animals within 15 miles of the infected farms were immediately imposed and the usual steps taken to prevent the spread of infection. Apart from the slaughter of all the stock on the premises on which the disease occurred, these steps include the regulation of entry into those premises, veterinary supervision over all adjacent stock and disinfection of infected places and things. There have so far been no further outbreaks in this area.

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Purchase Tax

Mr. Challen (Mar. 2nd) asked the Chancellor of the Exchequer with whom the Commissioners of Customs and Excise consult in drawing up lists of medicines and drugs to be exempted from Purchase Tax.

Sir S. Cripps: The Commissioners of Customs and Excise rely primarily upon the Ministries of Health and Agriculture on "human" and "animal" medicines, respectively.

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Motor Car Taxation

Mr. Gammans (Mar. 2nd) asked the Chancellor of the Exchequer for an estimate of the loss to the Exchequer for the current year and the next financial year if the registration tax on older motor-cars was reduced to that allowed for new motor-cars.

Sir S. Cripps: In a full year, £5¾ million. If a change were introduced, the effect in the financial year would depend on the date as from which the change applied and the arrangements made for refunds.

Mr. Gammans: Will the right hon. and learned Gentleman, when preparing his Budget, consider this claim of the motoring community, and has he not had representations from the motoring associations on this matter?

Sir S. Cripps: I have had representations on every conceivable point that might come into the Budget, and I have borne them all in mind.

Mr. Oliver Stanley: Would the right hon. and learned Gentleman bear in mind the invitation of his predecessor that, after a suitable period, we should exert pressure on him in this matter, and will he show himself as accommodating as his predecessor appeared to me?

Sir S. Cripps: I cannot anticipate my Budget Statement.

Mr. Wilson Harris: Is it not hard that the Ministry of Supply should prevent persons from getting new cars, and that the Chancellor of the Exchequer should penalise them for having old cars?

Sir S. Cripps: It seems to me to be an admirable combination.

Sir W. Smithers (Mar. 2nd) asked the Chancellor of the Exchequer if he will introduce legislation to put pre-January, 1947, and post-January, 1947, motor-cars on the same tax basis.

Mr. J. Langford-Holt (Mar. 2nd) asked the Chancellor of the Exchequer whether he will extend the flat rate of car road fund tax to cover all cars regardless of date of purchase or first taxation.

Sir S. Cripps: I am afraid I cannot anticipate my Budget Statement.

Sir W. Smithers: Is the Chancellor aware that the whole arrangements are full of anomalies and are grossly unjust, which is so typical of the Socialist Government?

Kosher Meat

Mr. Peter Freeman (Mar. 3rd) asked the Minister of Food (1) what was the number of animals slaughtered by the Jewish method in 1948; and the total weight of meat made available by such process; (2) how many Kosher meat registrations there were in 1948; and what was the total weight of meat allowed to them for the whole year.

The Minister of Food (Mr. Strachey): About 80,000 cattle, 40,000 calves and 70,000 sheep are slaughtered annually in Great Britain by this method, producing about 20,000 tons of meat. The estimated number of registrations for Kosher meat is 260,000, and the weight of meat issued to Kosher butchers in 1948 was about 5,500 tons. This is less than one half of 1 per cent. of the national meat supply. In general our arrangements mean that Jewish consumers gain a little on quality and on the other hand lose a little in quantity as compared to other consumers of meat.

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T.T. Milk

Mr. Scott-Elliot (Mar. 3rd) asked the Minister of Food what steps he is taking to stimulate the consumption of tuberculin-tested milk.

Mr. Strachey: It is rather a question of stimulating the production and effective distribution of this milk as we have difficulty in meeting the existing demand, but every effort is made by the Ministry to provide supplies of T.T. milk for those consumers who ask for it.

Mr. Scott-Elliot: Is my right hon. Friend aware that we are producing about 19 per cent. of T.T. milk whereas we are consuming only about 9 per cent.? Will he not agree that there is a great need to stimulate consumption?

Mr. Strachey: The question is mainly one of difficulty in transporting and distributing this milk separately from other milk. That is the problem to which we are addressing ourselves.

Mr. Somerville Hastings: Would not my right hon. Friend consider making a statement to assure the public that T.T. milk is not only safer, but is of better quality than ordinary milk?

Mr. Strachey: I should like to have an opportunity of doing so and I will do so here and now.

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Coal Industry (Horses and Ponies)

Mr. Peter Freeman (Mar. 3) asked the Minister of Fuel and Power whether statements concerning number of ponies used at particular collieries; number of accidents suffered by them or of injuries arising from accidents, numbers cast, humanely destroyed or otherwise disposed of; and ages of ponies when taken up from the mines for good and disposed of or destroyed, are independently checked and verified as in the case of financial matters in connection with collieries.

Mr. Gaitskell: In so far as the statistics referred to are collected, they are collected by statutory annual returns furnished by the collieries to the Ministry of Fuel and Power. These returns are scrutinised by the Ministry's statistical staff and any *prima facie* errors are taken up with the persons responsible for completing the returns. In addition, His Majesty's Inspectors of Mines possess powers to make any enquiry necessary to verify the particulars supplied and use these powers where information appears to be inaccurate.

Mr. Peter Freeman (Mar. 3rd) asked the Minister of Fuel and Power how many of the 1,600 cast or humanely destroyed horses and ponies that were employed in mines in the year ended June 30th, 1948, were over the ages of 15, 20 and 25 years.

Mr. Gaitskell: I regret that the particulars desired are not available.

Mr. Peter Freeman (Mar. 3rd) asked the Minister of Fuel and Power the number of horses employed in the mines of South Wales; and the number of ponies employed in the mines of Durham, Northumberland and Yorkshire, which are over the ages of 15, 20 and 25, at the present time.

Mr. Gaitskell: The number of horses employed in the mines of South Wales and Monmouth at June 30th, 1948 (the latest date available), was 4,068. As regards the second part of the question, I regret that the information is not available.

An investigation by the Rowett Research Institute into the factors which influence animals in the selection of food took one observer to the shores of N. Ronaldshay, in the Orkneys, where for most of the year sheep graze on seaweed. The institute is also trying to determine the long-term effects of iodinated casein, which stimulates milk production, on the health of cows, and a major study is being made of the effect of nutrition on susceptibility to disease.— *Farmer and Stock-Breeder.*

XIVth International Veterinary Congress

London, August 8th—13th, 1949

We publish below an outline of the programme of the forthcoming Congress: a full programme, giving the names of authors and the titles of their papers and a list of tours and visits of interest to veterinarians, and other details concerning the Congress, is in course of preparation, and will be sent to all applicants for membership.

Membership subscriptions are as follows:—

Ordinary Membership	£4 0 0
Associate Membership	£1 0 0
Student Membership	£1 10 0

Early application for membership will be of great assistance to the Organising Committee, while attention again is drawn to the great necessity for booking hotel accommodation in London at an early date.

OUTLINE PROGRAMME

The general programme is as follows, but it should be added that one day, to be devoted to discussions on clinical subjects of particular interest to small-animal practitioners, will be held in conjunction with the National Veterinary Medical Association of Great Britain and Ireland, also that films on veterinary subjects will be shown during the week.

General Meetings

1. The World Food Situation.
2. The Veterinary Profession's Contribution to the World's Meat Supply.
3. The Veterinary Profession's Contribution to the World's Milk Supply.
4. The Veterinary Profession's Contribution to the World's Poultry and Egg Supply.
5. The Veterinarian and the Breeding and Rearing of Animals.
6. Veterinary Education and its Application to World Problems.

Sectional Meetings

1. Animal Health and Animal Parasites
   - *a.* Protozoal Diseases and Therapeutics.
   - *b.* Helminth Diseases and Therapeutics.
   - *c.* Arthropod Diseases and Therapeutics.
2. Animal Health and Bacteria
   - *a.* Bovine Mastitis.
   - *b.* Brucellosis.
   - *c.* The Control of Bovine Tuberculosis in Various Countries.
   - *d.* Other Aspects of Tuberculosis.
   - *e.* Salmonella.
3. Animal Health and Viruses
   - *a.* Foot-and-Mouth Disease Vaccination.
   - *b.* Equine Infectious Anaemia.
   - *c.* Teschen Disease.
   - *d.* Newcastle Disease.
   - *e.* Swine Fever.
   - *f.* Rinderpest.
   - *g.* Coryza in Poultry.
   - *h.* Rabies.
   - *i.* Swine Influenza.
   - *j.* Other Virus Diseases of Cattle and Horses.
4. Physiology and Animal Health
   - *a.* Animal Health and Mineral Metabolism:—
     - i. Copper Deficiencies.
     - ii. Mineral Metabolism.
   - *b.* Acetonaemia.
   - *c.* Vitamins.
   - *d.* Infertility.
   - *e.* Endocrines in Relation to Animal Reproduction.
5. Husbandry and Animal Health
   - *a.* Plants as Animal Foodstuffs.
   - *b.* Husbandry Problems and Production.
   - *c.* Genetics.
   - *d.* Artificial Insemination.
6. Animal Health and Veterinary Surgery
   - *a.* Major Surgery on the Farm.
   - *b.* Anaesthesia.
   - *c.* Electro-Cardiography.
7. Animal Health in Relation to Public Health
   - *a.* Control of Animal Products Intended for Human Consumption.
8. General
   - *a.* Veterinary Education.

NOTES AND NEWS

Diary of Events

Mar. 16th.—Meeting of the Section of Comparative Medicine, Royal Society of Medicine, at 1, Wimpole St., W.1, 5 p.m.

Mar. 23rd.—Special Meeting of the Scottish Branch, N.V.M.A., at Glasgow (Ca'Doro Restaurant, Union Street), 2.30 p.m.

Mar. 24th.—Annual Meeting and Luncheon of the Western Counties Division, N.V.M.A., at Exeter (Rougemont Hotel), 2.15 p.m.

Mar. 25th.—Meeting of the Midland Counties Division, N.V.M.A., at Birmingham (Grand Hotel), 2.30 p.m.

Mar. 31st.—Special General Meeting of the South-Eastern Division, N.V.M.A., at Maidstone (Royal Star Hotel), 6 p.m.

Apr. 5th, 6th and 7th.—Quarterly Meetings of Council, R.C.V.S.

Apr. 7th.—Meeting of the Central Veterinary Society at the Royal Veterinary College, Camden Town, 6 p.m.

Apr. 12th.—Central Veterinary Society: One-day Poultry Course at the Royal Veterinary College, commencing at 10.30 a.m.

Apr. 20th, 21st and 22nd.—Quarterly Meetings of Committees and Council, N.V.M.A., in London (Meeting of Council, April 22nd).

Apr. 23rd.—Association of State Veterinary Officers: Annual Meeting at the Royal Veterinary College, Camden Town, 2 p.m.; Annual Dinner at the Criterion Restaurant, Piccadilly, 6.30 p.m.

Apr. 28th.—Special Meeting of the Central Veterinary Society at the Royal Veterinary College, Camden Town, 2 p.m.

June 1st (Wednesday).—Annual General Meeting of the Royal College of Veterinary Surgeons.

June 1st, 2nd and 3rd.—Quarterly Meetings of Council, R.C.V.S.

Aug. 8th to 13th.—Fourteenth International Veterinary Congress, Central Hall, Westminster, and Church House, Westminster, London, S.W.1.

Aug. 12th to 15th.—Sixty-seventh Annual General Meeting and Congress, N.V.M.A., in London.

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PERSONAL

The Directorship of the Imperial Institute of Veterinary Research, Muktesar, India

It gives us much pleasure to reproduce the announcement recently published in India that the directorship of the above institute has now passed, following upon the decision of Dr. Minett to take service under the Pakistan Government, into the hands, for the first time, of an Indian National, Major S. Datta.

Still under 50, Major Datta received his early university education at the University College of Science, Calcutta, studying chemistry under the distinguished scientist and Indian patriot, the late Sir P. C. Ray. He studied at the Royal Veterinary College, London, qualifying as M.R.C.V.S. in 1925. After holding the appointment of lecturer at the Bengal Veterinary College he joined the Muktesar Institute in 1930. In 1938, he returned to England for further study, took the Diploma of Tropical Veterinary Medicine of the R.C.V.S. from the Royal (Dick) Veterinary College, Edinburgh, and attended a post-graduate course in Animal Husbandry. He obtained the Edinburgh D.Sc., and was elected Fellow of the Royal Society of Edinburgh and of the National Institute of Sciences of India.

Major Datta was on military service during the recent war.

We wish Major Datta success in his post. He has wonderful opportunities to develop veterinary research and we look forward to developments in continuation of the work done at Muktesar in the past.

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Sir Daniel Cabot Honoured.—Sir Daniel recently has received the certificate of honorary membership of the American Veterinary Medical Association. This distinction, which will be welcomed most cordially by all his colleagues in the profession, was conferred upon him in August, 1947, while Chief Veterinary Officer of the Ministry of Agriculture and Fisheries, and we much regret that its notification to our readers has been so long delayed.

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Marriages.—Bownass—Millar.—At the Old Parish Church, Lanark, on February 25th, 1949, by Rev. R. Marcus Dickson, B.D., Robert Casson, B.Sc., M.R.C.V.S., second son of Mr. Thos. Bownass, Brentwood House, Low Bentham, Yorks., and the late Mrs. Bownass, to Jane Lawson, elder daughter of Mr. and Mrs. John P. Millar, Meadow Bank, Braidwood, Carluke, Lanarkshire.

Brown—Duncan.—On January 15th, 1949, at St. Mary's Church, Ross-on-Wye, Alan R. Brown, M.R.C.V.S., only son of Mr. and Mrs. R. W. Brown, of Chigwell, Essex, to Jean Phyllis, only daughter of Mrs. P. Duncan, of Ross-on-Wye.

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R.C.V.S. OBITUARY

McFarlane, Alexander, 65, May Street, Belfast. Graduated Dublin, July 26th, 1923. Died February 26th, 1949; aged 51 years.

Mr. Alexander M'Farlane, M.R.C.V.S., D.V.H.

Mr. Alexander M'Farlane was one of the best known veterinary surgeons in Northern Ireland and a familiar figure at agricultural and dog shows throughout Ireland. He was called to give evidence before the Babington Committee enquiring into agriculture.

A son of the late Mr. John M'Farlane, Dunmurry, he was educated at Royal Belfast Academical Institution. He graduated from the Royal Veterinary College, Dublin, in 1923, and gained the Diploma of Veterinary Hygiene at Liverpool University in 1925.

He commenced practice in Ballynahinch and later took over the practice of the late John M'Lean, M.R.C.V.S., in May Street, Belfast, where he conducted one of the largest single-handed practices in the British Isles. He was a member of the Council of the North of Ireland Veterinary Medical Association.

Mr. M'Farlane is survived by his wife and two young sons, with whom deep sympathy is felt in their bereavement.

The Rev. J. A. Donaldson, B.A., Dunmurry Presbyterian Church, officiated at the funeral at Knockbreda Cemetery, when the North of Ireland Medical Association was represented by Messrs. Noel Ferguson, president; A. M'Lean, city veterinarian; H. Lamont, William Kerr and James Thompson.

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THE LATE MR. M. HARVEY CLARKE, M.R.C.V.S.

A Tribute

Of Mr. Harvey Clarke, whose death we announced with deep regret in our last issue, W.A.S.S. writes:

Maurice Harvey Clarke, M.R.C.V.S.—Sam to his family and post-graduate friends, Elkey to his contempories at the R.V.C.—was born at Cricklewood on November 19th, 1907, and died in his home at Surbiton on February 28th, 1949.

Clarke was endowed with mental and physical gifts well above the average. Unfortunately, after a highly successful career in his first three years at College (one in Dublin and two in London) when he won three medals, he developed ulcerative colitis in his final year, and this condition remained undiagnosed for several months.

He saw practice with his uncle the late George Elmes in St. Albans, but very shortly after qualifying was obliged to stop work. From 1930 until 1940 he was unable to practice and spent six to seven months in University College Hospital.

In 1940 he took over the management of a branch practice in Surbiton which he subsequently acquired.

He married Kathleen Newton in 1938 and leaves one son and one daughter.

Sam Clarke was my best friend. In his student days, when I knew him most intimately, he was a highly amusing and most delightful companion. Subsequently, owing to his protracted illness and physical inactivity, he read extensively and developed a more mature attitude to life.

Based on hard work, professional skill and strict ethics, Clarke built up a fine practice in Surbiton where he was a member of the Rotary Club; he was also on the Council of the Central Division of the N.V.M.A.

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BILL TO CHECK ILLEGAL SLAUGHTER OF HORSES

An amending Bill to the Exportation of Horses Act, which aims to restrict the number of horses shipped to the Continent and slaughtered for food, is to be presented shortly to the House of Commons.

As reported in our last issue, investigations recently carried out by the R.S.P.C.A. and the International League for the Protection of Horses have shown that the majority of horses shipped to Belgium, are being slaughtered for food, despite the fact that export licences are only granted under written guarantees from Belgian importers that the horses are required for work and will not be slaughtered.

The societies concerned are agitating for an increase in the value under which a horse may not be exported from this country, at present £25.

" A.I. PEDIGREE STALEMATE "

In its issue of March 4th *The Farmers' Weekly* reports that the Shorthorn Society has experienced difficulties with the Milk Marketing Board in the administration of artificial insemination and that, as a result, the Society convened a meeting which was attended by representatives of the chief cattle breed societies.

Complaint was made of the position of stalemate that had arisen between the Society, the M.M.B. and the Ministry of Agriculture. According to the Shorthorn Society's rules, no calves that were got by A.I. could be registered in Coates's Herd Book unless the Shorthorn Society had approved the bull.

" This seemed an elementary safeguard when it was realised that thousands of calves might be sired by a single bull. In one instance the Shorthorn Society had withdrawn its approval of a bull in use in Shropshire.

" The M.M.B. had still continued to use the bull for A.I., even though it was known that none of its calves would be eligible for registration as pedigree animals.

" Despite requests from the Shorthorn Society, the Ministry of Agriculture had been unable to accept a formula in which one of the persons acting on the selection panel for choosing bulls for A.I. should be appointed with the approval of the appropriate breed society.

" Delegates of the other breed societies also gave details of the difficulties they were experiencing when negotiating with the M.M.B. One delegate said it was obvious that no organisation was more capable of selecting bulls for A.I. than the breed society concerned. Yet the ridiculous position applied under which the M.M.B. had refused to agree that breed societies should have the right to nominate a member for the selection panel choosing the bull.

" Other instances were quoted where bulls had been kept by the Board for many months and then returned to the owners because it was claimed they were infertile.

" Representatives of the societies present pledged their support in any action that the Shorthorn Society might take to remedy the position. It was also agreed unanimously that the whole question should be referred to the executive of the National Cattle Breeders' Association for appropriate action."

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CENTRAL VETERINARY SOCIETY'S ONE-DAY POULTRY COURSE

We would commend to the attention of all those of our readers to whom attendance is possible, particulars of the one-day poultry course for veterinary practitioners which are given in our Notices Column. This course, which is being held by kind permission of the Principal, at the Royal Veterinary College on April 12th, has been arranged by the Central Veterinary Society at the request of the N.V.M.A. The speakers and demonstrations will be " in order of their appearance," Dr. R. F. Gordon, Mr. J. D. Blaxland, Mr. T. M Doyle, Mr. Norman Dobson and Mr. C. Horton Smith. A film also will be shown. Lunch will be provided in the College Refectory.

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CONSERVATIVE SUPPORT FOR A " WELSH VETERINARY INSTITUTE "

It is interesting to note from the recently issued statement of the Conservative party's policy for Wales and Monmouthshire that amongst its principal features is the establishment of a Welsh Veterinary Institute. This forms part of the policy for education in the Principality, and is embraced in the proposed provision of more agricultural institutes in Wales. The Institute conception, of course, goes beyond what is recommended in the Loveday Report: it may embrace a veterinary college in its design for a centre for the prosecution of research.

Other main features of the policy are the charging of a Cabinet Minister with a special responsibility for Wales, opposition to the proposed amalgamation of Welsh counties for local government purposes, the promotion of a stable and diversified system of industry, and the development of rural amenities. The section dealing with rural Wales comments on the widening gulf between rural and urban amenities, and urgent practical measures are put forward for restoring stability and security to rural life.

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S. RHODESIAN VETERINARY ASSOCIATION RESUSCITATED

At a meeting of veterinarians, officials and general practitioners held in Salisbury, Southern Rhodesia, on February 19th, 1949, it was decided to resuscitate the S. Rhodesian Veterinary Association, formed by Mr. Ll. E. W. Bevan in 1928, and to reaffirm its affiliation with the N.V.M.A. of Great Britain and Ireland. Many subjects were discussed which were considered to be of importance to the welfare and prosperity of S. Rhodesia and to the members of the veterinary profession. They included the creation, at some future date, of a National Veterinary Service, but—of more immediate urgency—the promulgation of a Veterinary Surgeons Act. Now that a considerable number of general practitioners have arrived recently in the country, it was unanimously decided that a " gentleman's agreement " with regard to fees should be drawn up, and a copy submitted to the Minister for Agriculture for his information. Many other matters of importance were discussed, and (states our informant) it is pleasing to note the greatest harmony and goodwill prevailed.

Mr. Ll. E. W. Bevan was unanimously appointed President of the Association and Mr. Martin Kingcome, another original member of the old Association, Vice-President. Mrs. Marion Stewart, a recent arrival in the country, generously agreed to act as Secretary for the coming year, while Mr. John Mackinnon undertook the Treasurership. A very convivial " sundowner " party, to which many of the members brought their ladies, followed in the evening

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ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

FOOT-AND-MOUTH DISEASE:

Devon.—Sandy Park Farm, Rydon Lane, Exeter, Devon (Mar. 1st).

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SCHOLARSHIPS IN EUROPE, 1949-50

The British Council has issued a booklet containing particulars of certain scholarships offered for the academic year 1949-50 to members of British universities and colleges by foreign governments and universities. The closing date for applications is March 31st, except for the scholarships offered by the Centre National de la Recherche Scientifique in France, for which it is March 18th, and the scholarships offered by the Netherlands Government, for which it is April 30th. In the case of the scholarships offered by the Centre National de la Recherche Scientifique the Council are prepared to receive provisional applications, if candidates are unable to supply the full particulars required by March 18th.

Enquiries should be addressed to R. C. Symonds, Universities Section, Education Division, The British Council, 3, Hanover Street, London, W.1.

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ROYAL SANITARY INSTITUTE CONGRESS AT BRIGHTON

As already announced in our columns, the president of the Veterinary Hygiene Section of this Congress, to be held at Brighton from May 23rd to May 27th, will be Mr. H. T. Matthews, F.R.C.V.S. The Section (D) will meet at 10 a.m., on Tuesday, May 24th, to hear and discuss the following papers: " The Public Health Aspects of Poultry Disease," by W. P. Blount, PH.D., F.R.C.V.S., F.R.S.E., and " Farm Buildings in Relation to the Health of Dairy Cows and Milk Production," by F. A. Davidson, B.SC., M.R.C.V.S., Divisional Inspector, Animal Health Division, Ministry of Agriculture and Fisheries.

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LEGAL NOTES

APPEAL AGAINST REFUSAL TO LICENSE A HORSE SLAUGHTERING ESTABLISHMENT

In allowing, with 80 guineas costs, the appeal of Messrs. A. A. Fisher, Ltd., butchers of Green Street, East Ham, against the refusal of the West Ham County Borough Council to renew the licence for a slaughterhouse at Plaistow, West Ham, the stipendary magistrate, Mr. A. A. Pereira, reviewing the evidence, said that the grounds for the Council's refusal were (*a*) the unsuitability of the premises for continued use as a slaughterhouse; (*b*) their unsuitable location for such use and (*c*) the prejudicial effect of the slaughterhouse on the general amenities of the area in which it is situated. Messrs. A. A. Fisher, Ltd., acquired the premises in 1939 but in 1940, under war-time regulations, it ceased functioning although it was licensed uninterruptedly. In October, 1941, the applicants applied to renew the licence and on December 3rd, 1941, the application was granted subject to the execution to the satisfaction of the M.O.H., of certain works. The work was done and the licence was granted for three months from February 9th, 1942. Thereafter the licence was renewed without incident until April,

1946, when the Town Clerk wrote that although the licence was then renewed for six months, in the Council's opinion the time had arrived when the premises should cease to be used as a slaughterhouse "having regard to present-day standards and the close proximity of residential property to this slaughterhouse." When the next application for renewal was dealt with by the Council in October, 1946, the application was refused and the grounds of refusal were detailed and included the infringement of three of the Council's By-Laws, relating to situation, lay-out, etc.

ELIMINATION OF PRIVATE SLAUGHTERHOUSES

The complainants appealed against the refusal and thereafter attempts were made by the parties to arrive at a solution of the matter. In November, 1946, the appeal was adjourned *sine die* with liberty to restore to enable the complainants to obtain alternative accommodation and thereafter the licence was renewed from time to time without prejudice, but when in January, 1947, the complainants found suitable alternative premises on the north side of Beckton Road they were met with a refusal and it was clear that the refusal was not based on the unsuitability of the site but because the Council were then actively considering the establishing, either for West Ham alone or in conjunction with other local authorities, of a public abattoir. "The inference is reasonably clear," proceeded the magistrate, "that the Council were hoping to eliminate private slaughterhouses and thereby render this project more feasible. It was hoped to secure this end in general in collaboration with slaughterhouse owners and butchers, and in particular with Messrs. A. A. Fisher by 'mutual agreement' but it is significant that the word 'compensation' nowhere appears in the minutes as being an element in such mutual agreement or collaboration. Detailed provisions are contained in Section 61 of the Food and Drugs Act, 1938, for the elimination of private slaughterhouses, subject however, to the payment of compensation to the owner and occupier of premises lawfully so used at the relevant date, and indeed the local authority has ample power to acquire these premises under other statutes on payment of compensation. This is a very relevant consideration because it bears upon the weight to be attached to the evidence given on behalf of the Local Authority which, if proved, would in effect entitle the Council to close this slaughterhouse, and if the Council established an abattoir, without paying the owner or the occupier compensation. The closing of the slaughterhouse by mutual agreement with Messrs. Fisher, Ltd., failed on November 18th, 1948, the latter's application was finally refused on the grounds already stated, and these grounds were communicated to the complainants by letter dated December 9th, 1948. On the same day there was issued by the Council to the residents in the neighbourhood of the slaughterhouse a circular letter which in effect, to put it quite bluntly, invites them to complain about the slaughterhouse and to give evidence in Court and even enclosing a questionnaire which sets out the heads under which complaints might be summarised. The value of evidence obtained by such methods is highly dubious. I find as a fact that prior to this circular there was no local feeling against the slaughterhouse and I doubt whether there is much to-day."

The appeal was heard on January 19th and February 2nd, 1949 (Mr. Pereira continued). Both parties were represented by counsel. A great number of witnesses were called. It was refreshing to hear Alderman Mrs. Parsons who gave her evidence with great good sense and balanced judgment, and one could not but sympathise with her views, as Chairman of the Health Committee, that the slaughterhouse should not be where it was and must be a nuisance. Her evidence, however, did not conclude the matter and, indeed, she frankly said that the complainants were not allowed to proceed with their application to put the slaughterhouse elsewhere because the Council were thinking in terms of a public abattoir.

If one were to accept the evidence of the complainants entirely, it would appear that this was an almost perfect slaughterhouse, perfectly conducted in relation to the by-laws and with perfect humanity to the horses. He did not entirely accept that. On the other hand, the professional witnesses for the Council gave evidence of defects, breaches of the by-laws and other conduct which might well justify the Council, even without the existence of the indirect financial motive to which he had already referred, in refusing the licence.

The complainants had called two very distinguished veterinary surgeons with a wide knowledge of public and private slaughterhouses. They were Colonel Dixon and Professor McCunn, a consultant veterinary surgeon. The latter knew this district well and knew this slaughterhouse. Both these gentlemen gave a closely reasoned report on the slaughterhouse and stated that in their opinion it was a good slaughterhouse, well fitted, well constructed and suitable for slaughtering 15 horses a day. He had weighed the evidence of the witnesses on either side and had visited the slaughterhouse. He preferred the evidence of the complainants' witnesses. So far as the premises were concerned and the conduct of them, there was no reasonable ground for refusing a licence. No doubt there were various minor matters which required attention. This was an old building and was not extensive but there was no matter except one which could not be rectified by the expenditure of money. The one matter was the location of the slaughterhouse. This was the original ground of complaint set out in the Council's letter of April 26th, 1946, and was, in his view, the matter of substance. He agreed that as things were to-day it was not a suitable site for a slaughterhouse and if the Council proposed, by paying reasonable compensation, to close or remove the slaughterhouse elsewhere nobody could complain.

"It is only now," concluded the magistrate, "when the Council is considering entering the business of slaughterhouse-keeping that this attack is made on the conduct and location of this slaughterhouse. I am forced to the conclusion that the Council is actuated by the indirect motive of seeking to put this slaughterhouse out of business without paying compensation in order either that it may more effectually carry on the business itself or alternatively that it may exclude slaughterhouses from West Ham altogether. I think it would be inequitable under such circumstances to refuse to renew the licence without paying compensation under Section 61 of the Act or any other statute empowering them. I, therefore, allow this appeal."

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Overstocking: "Cruel Practice" Condemned by Sheriff

The practice of overstocking or failing to milk a cow on the morning of a sale is vigorously condemned by Sheriff W. R. Walker in the course of a note to a judgment he has given in a civil action brought before him in Banff Sheriff Court.

In its report of the case *The Scottish Farmer* records that the plaintiff, an Aberdeenshire dairyman, claimed that on September 1st, at Huntly Auction Mart, he bought from the respondent farmer an Ayrshire cow which was sold under warranty of being "calved, cleansed, and correct in teats." It was averred that on September 2nd, when the cow was milked in the presence of a veterinary surgeon, the milk measurements showed that the cow was disconform to warranty. Plaintiff held that the contract was thus repudiated and asked for repayment of the price and outlays incurred by him, *viz.*, £36 15s., with interest and expenses. After hearing proof in the case, Sheriff Walker found that plaintiff had failed to prove that the cow was disconform to the warranty on the date of the sale, and he repelled the claim, finding plaintiff liable in expenses to the defender on the lower scale. In course of a note to his judgment, the Sheriff states:—

"In this case a very temporary discrepancy in the yield of the different teats would not make the cow disconform to warranty if it was, or might be, explained by some accidental cause, such as overstocking on the day of the sale. On the whole evidence, I think that is the most probable cause of the cow's condition on September 2nd, the date of the first examination. The result is that the plaintiff has failed to prove his case, and the defender must be assoilzied.

"It was stated in evidence that the practice of overstocking or failing to milk a cow on the morning of a sale was a common one. I wish to add that it is a cruel one, and it is likely to prove an expensive one for anyone who is prosecuted on that account. The only reason for it seems to be the hope of deceiving a buyer into thinking a cow yields more milk than in fact she does, and that is hardly an adequate excuse for the infliction of suffering."

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LONDON VANNERS EASTER PARADE

The 35th Annual Parade of London's light van horses will take place in Regents Park on Easter Monday, April 18th. Veterinary examination and judging starts at 9.30 a.m. and the parade of prize-winners will take place at 12 noon, when Frances, Lady Daresbury, will present the awards.

Horses come from every suburb in London, and there is no greater enthusiast and lover of a good horse than the average greengrocer, carter, butcher and small horse owners of London. Over 350 exhibits are expected and all must be shown in the actual vehicle and harness in which they perform their daily work, and every driver has an equal chance of obtaining the Society's First Class Award. Consideration will be given to the difficulties which horse owners have to contend with these days in keeping horses, harness and vans up to the usual standard.

The parade is as popular as ever, both with the owners and drivers of horse vehicles and with the general public. Last year the show was one of the most successful ever held. The standard of the exhibits is usually high and reflects great credit on the drivers and horse foremen who take such time and trouble in keeping their horses and equipment in good condition.

The Van Horse Parade Society exists entirely by voluntary subscriptions. Subscriptions these days are inclined to fall, but the increase in entries means increased expenditure. Donations towards the prize fund from those who are interested in maintaining and improving the standard of London's van horses will be welcomed by the Treasurer, Mr. Sanders Watney, Stag Brewery, Pimlico, London, S.W., or by the Secretary, 66, Sloane Street, S.W.1.

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WATER PROBLEMS CHECK STOCK INCREASE

Under the above heading, in its issue of February 18th, *The Farmers' Weekly* reports that the inadequacy of rural water supplies and the slowness of getting piped supplies to farms were strongly criticised at a meeting of the Notts County F.U. Executive Committee.

Ald. S. C. Armitage, who raised the matter, said they were asked to provide greater numbers of livestock and milking cows, but many farmers were only carrying a quarter of the stock they would like because of inadequate water supplies. Pressure, he said, should be brought to bear on Government departments to hurry up the schemes of providing piped supplies to farm lands. In the Vale of Belvoir agreement had been made between Nottingham Corporation and Bingham Rural Council, but the scheme seemed to be stuck between the Ministries of Agriculture and Health.

The chairman (Mr. A. H. Galbraith) said that they were assured that extra plant had been provided and piping would be turned out in greater quantities this year.

Farmers in the Gainsborough area (proceeds the *F.W.*), through their spokesman, Mr. Newton Loynes, secretary of Lincolnshire F.U. branch, told a Ministry of Health enquiry that they would not be able to reach maximum production unless an adequate water supply was laid on to farms and fields. Mr. Loynes said that 50 dairy farmers in the district found it absolutely essential to have an adequate water supply for cooling and sterilisation purposes, and if this was not forthcoming, they would not be able to comply with the implied regulations of the new Milk Designation Bill now before Parliament. Their alternative to going out of milk production altogether, was to continue to sterilise milk by heat treatment.

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SOIL EROSION IN BRITAIN

Sir John E. Russell, in an article in the *Farmer and Stock-Breeder*, asks: "Is soil erosion going on in this country?" There are two main agents—wind and water. In Great Britain marked wind erosion hardly occurs on heavy soils, grasslands or woodlands, but newly claimed fen soils and light sands are especially subject to it.

In the past these light soils have been used for sport and forestry, but it is now possible to fix them by a system of alternate husbandry, a seeds mixture being necessary to bind the particles, before the arable crop is sown. It is, however, essential to plant shelter belts of trees to break the force of the wind.

The modern systems are not always as good as the old for protection, especially where grass leys are omitted and the land is used chiefly for straw crops with periodical fallows for cleaning. This opens the way for erosion both by wind and water. The ideal method would be to combine agriculture and forestry, and to plan the region jointly, arranging the plantations so that they form shelter belts giving the maximum help to agriculture.

Erosion by water can happen on any soil, and is very liable to occur on steep slopes, although in this country it has never been serious enough to demand special treatment.

There is, however, always the risk that a heavy downpour may cause gullying in a ploughed field, and the longer the run the worse the gullying may become.

Sir John concludes by comparing soil erosion in this country with that in the Dust Bowl of the Middle West, and states that we are fortunate in the profuse growth of weeds that has protected our light soils for thousands of years, and that good farmers are probably producing more on these soils than ever their predecessors did.

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A strong plea for the establishment of a Norfolk committee of the Animal Health Trust was made by the organising secretary, Sir Cleveland Fyfe, when he spoke as guest of honour at the annual dinner of Aylsham F.U.

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Copies of *The Incisor* (magazine of the Royal Veterinary College) will soon be obtainable by members of the profession from the Editor, R.V.C., Camden Town, N.W.1. Price 2s. 6d. post free.

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the N.V.M.A.

Correspondents are requested to write as briefly as possible.

"BLUE NOSE" DISEASE IN THE HORSE

Anthisan Treatment

Sir,—I was interested to read the correspondence in the *Record* on this condition, as in the last three years I have encountered at least ten cases of "blue nose" in this part of Lincolnshire.

During the spring and summer of 1946 and 1947, I treated the condition with various drugs, including adrenalin, with very disappointing results. In June, July and August of last year I had three cases of "blue nose," and as the scanty literature on the subject attributed the condition to anaphylaxis, I tried Anthisan with marked results in all three cases. The dosage (intravenous administration) was, initial dose 20 c.c., and after eight hours 20 c.c. As there was marked improvement in all three cases after the second dose, the third and last dose given at the same interval was cut to half the two previous doses.

The last case seen in late July and early August was in a hunter gelding with diamond on the muzzle and three white socks. The diamond on the muzzle showed the pale blue cyanotic area described, and which later sloughed, whilst the three unpigmented limbs primarily became stiff and later swollen. The pigmented limb remained normal throughout but the unpigmented limbs were swollen and exuded serum for about three months after all other symptoms had disappeared.

Yours faithfully,

37, North Street, Horncastle, Lincs. ROBERT MUIR.

February 28th, 1949.

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THE EXAMINATION OF BOVINE FAECES FOR THE PRESENCE OF ACID-FAST BACILLI

Sir,—The chances of detecting acid-fast bacilli by microscopic examination of samples of faeces are increased in proportion to the extent to which vegetable matter can be removed prior to the examination.

The method used in my laboratory is as follows:—

Dilute the sample with water till it pours easily. Have ready a large wide bore test tube (6 in. by 1 in.) filled with water to within an inch or so of the top. Pour some of the diluted faeces into the water to fill the tube, which is then set aside in a rack. The minimum period which should elapse before anything else is done is four hours, but the best results are obtained if the tube is allowed to stand over night. During this period vegetable debris is sedimented. About 5 c.c. of the liquid is poured into a centrifuge tube and run for five minutes or so at about 2,000 revolutions. The supernatant liquid is then poured off and a film made from the sediment.

Examination of the stained specimen shows that the film contains only bacteria and debris of a comparable size or smaller. Experience soon shows how thinly the film should be spread so as to get a continuous even layer. The acid-fast bacilli stand out conspicuously in a blue mosaic of other organisms and debris.

Yours faithfully,

Wroxton, Chorleywood, Herts. A. LESLIE SHEATHER.

February 2nd, 1949.

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UNIVERSITY SALARIES

Sir,—In October, 1948, Dr. Raven, Vice-Chancellor of Cambridge University, was reported to have said: "In view of the cost of living, it seems inevitable that unless we can improve our scales of pay, we shall lose an increasing number of those who cannot live at our present rates." Pointing out that under the Spens Report on the remuneration of consultants and specialists, a specialist appointed to the staff of a hospital would be guaranteed a salary rising to £2,500 at the 1939 value of money, he added: "It seems obvious that the University Grants Committee will have to reconsider the decisions they have at present upheld (a maximum professorial salary of £1,450) or else we shall have to qualify in the Medical School."

In other words, those within the Universities were expected to toe the line, in conformity with the Cripps wage freeze (notwithstanding the insidious but remorseless increase in the cost of living), whereas the so-called specialists and consultants were to have preferential treatment in keeping with present trends..

It was not surprising, therefore, that the Committee of Vice-

Chancellors took the matter up with the University Grants Committee with the result that a partial Crippsian thaw has occurred. The revised rates of salaries in the University Medical and Dental schools are :—

Clinical Posts: Professors, £2,250 to £2,750 a year; lecturers, £600 to maxima of £1,500 to £2,000 (or in cases of special responsibility £2,500).

Pre-Clinical Posts: Professors, £2,000 to £2,500; lecturers, £600 to maxima of £1,200 to £1,800.

One wonders how veterinarians in University (Medical Faculty) employment will be affected. Are they, in virtue of their comprehensive training and place in the national economy, as worthy of these revised scales as the extractors of human teeth ?

Yours faithfully,

Hilltop, G. H. Arthur.
Goring,
Reading.
March 1st, 1949.

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"HUMANE" KILLING AND MUSLIM METHOD OF SLAUGHTER

Sir,—Mr. H. E. Bywater has just sent us a copy of his letter published in your esteemed journal in its issue of August 7th, 1948; I feel, therefore, that some further clarification of my points published in July 17th, 1948, issue of your paper has become necessary.

I must at the outset make it clear that unlike our Jewish friends, we Muslims are prepared to concede that the meat coming from "humane" killing in England is eatable for a Muslim, classing it with meat obtained from shooting without any time left for subsequent slaughter and similar emergency measures described in the Holy Quran Ch. 5, V. 3. But we are not yet convinced that the current English method of slaughter after stunning is in any way superior to the traditional Muslim method, either from hygienic or humane points of view. Neither have the advocates of "humane" killing anything of a decisive nature to prove their contention that slaughter after stunning causes as much bleeding as slaughter without stunning, because so far there is no method by which this can be ascertained beyond all doubt. As things stand, we cannot ascertain the exact quantity of blood in an animal body when it is not slaughtered so as to be able to compare it with the quantity released by slaughter. Neither can we try both the methods of slaughter on the same animal, so enabling us to compare the quantities of blood shed in the two respective methods.

I am informed reliably that in England itself the Jewish-*cum*-Muslim method of slaughter is used while killing pigs in pork-curing industries. The reason, I am told, is that the meat obtained through the stunning method decomposes more quickly than that obtained through the Jewish-Muslim method, because of the comparative retention of blood in the former case. If that is a fact, it shows clearly that stunning disturbs the natural outflow of blood from the slaughtered animal. I may be excused for pointing out in this connection that the harmfulness of blood as a part of human food has dawned upon Christians only through the pressure of the higher culture of the Jews and Muslims in this respect and that even now our Christian friends are inclined to relish blood as much as the Jews and the Muslims abhor it. Perhaps a little more progressive thinking and a little more advancement of science in this respect will enable our Christian friends, to see the ugliness of stunning in the same way as they have come to realise the harmfulness of blood.

Nor yet can we see any real humaneness in stunning. If there is really any tenderness in the method, why not first try it on human beings who are sentenced to death? The fact is that the advocates of this method intuitively feel that there is nothing particularly humane in the act of stunning and that the plea of humaneness is based on sentiment backed perhaps by a lingering and sub-conscious attachment to a pagan custom.

Possibly there is also some psychological confusion involved in our Christian friends' way of thinking. For instance, a lady from the North of England has written to us drawing a parallel between the stunning of animals before slaughter and the application of anaesthetics before operation on human bodies. Our correspondent obviously forgets that whereas slaughter is aimed at bringing about death, wherein ends all suffering and pain, operations are done to prolong life with its attending sense of pain. What is more astonishing is that the soothing effect of anaesthesia should be confused with the rude shock of stunning. It will also be a wrong reading of facts to ascribe to the animals the faculty of imagination which so much aggravates the sense of pain in the case of human beings.

Nor should we lose sight of the experiments carried out by the German-Jewish Dr. Weizenberg, showing that the quick cutting of the jugular vein by a sharp knife paralyses the sense of perception as quickly as it is claimed for stunning. Above everything else is the simple logic that the single process of quick slaughter by a sharp knife must be a shorter course of ending life than the double process of stunning and slaughter.

It is no argument against slaughter without stunning that some illiterate believers in this method in a far-off foreign country should lack the skill and equipment to use it in an efficient manner. It is uncharitable to condemn this method on this basis. The proper civilised attitude would have been to persuade these people to use their own method, which is decidedly the best, in the proper way and to induce them to improve their system of slaughter with the help of things made available by the inventions of modern science, among which, I am afraid, stunning is not one. And while suggesting and even enforcing, if necessary, improvements in such methods we must take into consideration the question of the universality of application of a particular method. By all means compel the Jews and Muslims living in London or in other highly developed cities to adopt all that science can provide to ensure ease to the animals and cleanness to the meat, but you cannot make it a rule universally applicable. A caravan out on a month's journey, needing meat in the middle of the desert, or a hamlet inhabited by poor artisans and shepherds in the interior of a country, wanting to kill a cow or a sheep on a festive occasion, cannot be expected to employ your highly refined London method of casting positioning and slaughter. Religious laws have to keep—and indeed have always kept—in view this particular aspect of the question. They prescribe the minimum requirements, leaving the individual, or the society, to develop the prescription according to the advancement attained by civilisation at a particular time and place. For such development we Muslims are always prepared and I advise my Muslim friends living in modern cities to pay immediate attention to this question. But, at the same time, the Christian English authorities must have due respect for the hidden wisdom of certain rituals in the hoary traditions of the great religions of the world.

As for humane treatment of animals by the Muslim East, I recommend to Mr. Bywater the reading of a very instructive book by an Englishman who was an orthodox Christian—I mean Mr. Bosworth Smith's "Mahomed and Mahomedanism." This author has presented detailed facts and figures on this particular question supplied by hostile Christian missionaries living long in the East. Had he come across this book before this I am sure he would not have made the statement he has done in the correspondence under discussion.

Yours faithfully,

Aftabud Din Ahmad,
Secretary.

The Woking Muslim Mission and Lit. Trust, Aziz Manzil, Brandreth Road, Lahore, West Pakistan.
February 22nd, 1949

DISEASES OF ANIMALS ACTS, 1894 TO 1937, AND AGRICULTURE ACT, 1937 (PART IV).

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Fowl Pest	Parasitic Mange*	Sheep Scab	Swine Fever
Feb. 1st to 15th, 1949	8	1	27	—	3	1
Corresponding period in—						
1948	10	—	14	1	5	1
1947	4	8	—	—	1	6
1946	3	4	—	1	7	42
Jan. 1st to Feb. 15th, 1949	24	1	72	—	10	3
Corresponding period in—						
1948	16	—	68	1	15	4
1947	9	49	—	—	13	8
1946	18	17	—	4	16	90

Note.—The figures for the current year are approximate only.
* Excluding outbreaks in Army Horses.